REPORT RESUMES

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AN ANALYSIS OF THE ORGANIZATION OF EDUCATION AS A SUBJECT OF STUDY.

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A STUDY PROGRAM WAS DESIGNED TO CLARIFY THE DEFINITION OF THE TERM "EDUCATION" AND TO DEVELOP AN ORGANIZATIONAL PLAN WHICH COULD BE USED IN THE STUDY OF EDUCATION. THE OBJECTIVES WERE--(1) TO SEARCH OUT THE SIGNIFICANT PLANS, PAST AND PRESENT, EMPLOYED IN THE STUDY OF EDUCATION, (2) TO ESTABLISH THE PLACE OF SYSTEMATIZATION OF ACADEMIC SUBJECT MATTER IN THE FIELD. AN HISTORICAL REVIEW OF THE SYSTEMATIC FORMULATIONS RELATING TO THE STUDY OF EDUCATION WAS UNDERTAKEN. THESE FORMULATIONS WERE ANALYZED TO IDENTIFY THE PRINCIPLES AND CONCEPTS INVOLVED. A TENTATIVE SYSTEM WAS THEN CONSTRUCTED FOR CLASSIFYING EDUCATION STUDY. THIS PROGRAM WAS CONDUCTED IN TWO PARTS--(1) EDUCATION AS A SUBJECT OF STUDY, AND (2) EDUCATION AS A LITERARY DISCIPLINE. (JH)

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THE EVOLUTION OF AMERICAN EDUCATIONAL THEORY -

Cooperative Research Project No. 245

By

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Stanford University
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EDUCATION AS A SUBJECT OF STUDY

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INTRODUCTION

This study has been conducted in two parts:

Part One: Education as a Subject of Study

Part Two: Education as a Literary Discipline

The first of these divisions of the investigation totals 341 pages, the second 192 pages. Each part is separately paginated and has its own bibliography in its last pages.

The Foreword of Part One describes the initiation of the study and relevant facts about the over-all enterprise. The Foreword of Part Two (which follows page 341 and a second title page) includes the director's brief comments about Part Two.

February 8, 1962 W. H. Cowley

FOREWORD

In the Spring of 1957 the writer submitted a research proposal to the United States Office of Education for possible support under Public Law 531 of the Eighty-Third Congress. The description of the project, entitled "Systematics in the Study of Education," read in part as follows:

> The problem has two parts: first, searching out all significant systematic schemata used in the study of education and, second, analyzing and appraising them in the light of the concepts developed by taxonomists and systematists in other fields.
>
> The first part of the study will range from such statements as (a) John Dewey's 1897 memorandum to President William Rainey Harper of the University of Chicago to (b) the monograph by Benjamin S. Bloom and his associates published in 1954 and entitled Taxonomy of Educational Objectives. The second part of the study will draw upon a wide range of writings including Julian Huxley's The New Systematics, John Dewey's last book (written in collaboration with Arthur F. Bentley) entitled Knowing and the Known, and those of Von Bertalanffy and his associates concerned with general systems theory.

The objectives of the study listed in the proposal read:

> 1. To discover all significant schemata -- past and present -- employed in the study of education.
> 2. To bring to bear upon them the best thought about systems in the broad.
> 3. To describe the place of systematics in the study of education.
> 4. To propose for discussion a more inclusive structuring of the field than any yet published.

Some weeks later the United States Office of Education approved the project and allocated $7,015.00 to Stanford University for it, that sum being supplemented by a Stanford budgetary allocation of $4,485.00. The United States Office of Education, however, changed the title of the study to read "An Analysis of the Organization of Education as a Subject of Study."

For a number of years the writer had been preparing the ground for the inquiry, but he could not proceed until a helper became available with an appropriate background and an adequate interest in the problem. He turned up in the person of Charles J. Brauner, a Stanford graduate student working for the Ph.D. degree in educational and general philosophy.

Mr. Brauner took his A.B. degree at the University of Michigan in 1950 with a major in English and a minor in general science. The following year Teachers College of Columbia University granted him the A.M. in educational philosophy, and during the next three years he taught in Michigan public schools. The year 1954-55 he spent in Greece on a Fulbright fellowship, and from there he came to Stanford. He began his work with the writer in the Fall of 1956.

The proposal made to the United States Office of Education on March 1, 1957 requested funds for the twelve-month period beginning on the following first of July; but as the work proceeded, it became clear that the undertaking would require two years and that its two parts would need to be different from those originally contemplated. The new Part One would review the development in the United States of education as a subject of study, and the new Part

Two would concentrate upon the taxonomic problems involved in the attempt to construct a new formulation for education as a subject of study or, differently expressed, as an intellectual discipline.

Following the writer's petition for additional funds for the year beginning July 1, 1958, the United States Office of Education appropriated $7,590.00, and Stanford University allocated an additional $5,310.00. Financial assistance for the project terminated June 30, 1959. It totalled $14,605.00 from the United States Office of Education and $9,795.00 from Stanford.

This volume constitutes Part One of the study. Most of the work on Part Two has been finished, and much of it has been written. It will not be completed, however, until the Spring or Summer of 1960 since Mr. Brauner has taken a full-time position at Purdue University and hence can attend to the final stages of the enterprise only during his leisure. Upon its completion it will be duplicated to match the present volume. Meanwhile Mr. Brauner has submitted Part One to the Stanford University Committee on Graduate Study, and it has been accepted in partial fulfillment of the requirements for the degree of doctor of philosophy. He will be granted the degree in June, 1960 as of December, 1959.

The writer has kept in continuous touch with Mr. Brauner's work and has frequently -- during some periods daily -- discussed it with him. He has not always agreed with his handling of the data or with his conclusions, but the differences have been minor. Throughout it has seemed desirable to give him as complete freedom as consonant with the writer's responsibilities as director of the project and as the major supervisor of that portion of it which has been submitted as a doctoral dissertation.

Mr. Brauner will largely write Part Two, but the undersigned plans to append a comprehensive statement which will perhaps have utility as an introduction to both portions of the study should they eventually be published in a single volume.

W. H. Cowley

December 21, 1959

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INTRODUCTION

> "Education" is, and should be, a term as comprehensive as "life" or "experience." The great educational theorists have used it to refer to nothing less than teaching-and-learning in all its possible manifestations, exemplifications, and ramifications. Even when they discuss something as narrow as spelling or handwriting, the larger conception dominates their thought. And any less ambitious approach to educational problems quickly degenerates into a fussy preoccupation with trivia. But teaching-and-learning is an aspect of nearly all experience, not a "subject" separated from other "subjects" by well marked boundaries.[1]

"Science" and "art" fit on the same level of abstraction with all-of-life suggested for "education" in the epigraph above by Professor Black. Yet certain easy divisions emerge in a discussion of science or of art which have no ready parallel in education. Science, for example, separates into physics, biology, and psychology; art divides into literature, painting, sculpture, and the dance. How shall education be divided: primary, secondary, higher, adult, public, and private; or from another side, administration, teaching, method, and curriculum? The twentieth century has continued to deal with education summarily while taking precautions against the wholesale discussion of all of science and all of art.

How can such a broad-as-life concept of "education" be handled? In an important sense it cannot. As a first step toward making it manageable, however, William K. Frankena of the philosophy department of the University of Michigan divided it as follows:

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[1] Black, 1956: 6.

> At once a distinction must be made between education as a process and education as an academic discipline. In the former sense, education is the process by which society makes of its members what it is desirable that they should become. . . either in general or in so far as this may be carried on by what are called "schools." In the second sense, education is the discipline which studies this process in one way or another, its findings being reported and passed on in professional courses in schools of education.[1]

In such a dichotomous sense all not included under "schooling" would be part of the discipline. This brings the divisions theory and practice to mind. Yet consideration of Frankena's second sense of the term education -- an academic discipline -- suggests some important questions, such as:

1. What does the discipline include?
2. What does it exclude?
3. What are its leading ideas, concepts, and theories?
4. What is the basic framework of the discipline within which all disputing theories operate?
5. How have the ideas, concepts, and theories been developed?
6. How do they relate to practice?
7. On what basis are they organized?

Such questions inquire into the nature of education as a discipline. But in this area of thought where narrow subjects have been stretched to ambitious proportions so much must be included that

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1. Frankena, 1956: 31.

the discipline can be neither simply defined nor comprehensively catalogued. This situation was well summed up in a half-humorous statement made by James Feibleman about education in general: "No matter how elementary the contents of education may be the presentation of it is bound to be complex!"[1]

Grasping Education as a Discipline

There must be a qualitative difference between an intellectual discipline and mere verbalization, on the one hand, and between an intellectual discipline of education and the practical preparation of teachers, on the other. The frequent complaint that teacher training is too much centered on recipes or methods of how to instruct suggests that such practical explanation and the demonstration of technique could be multiplied indefinitely without achieving "discipline" status. Yet explanations of how to teach are part of one or another "theory" of instruction. Practical training for public school work incorporates various theories of curriculum, administration, and instruction. Such theories contain propositions stated on the various levels of abstraction appropriate to such recognized disciplines as psychology or biology.

Those involved in teacher training have been inclined to consider such practice-centered theories the content of an intellectual discipline of education. Many other members of the academic community have attacked this content as a body of verbalizations about

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1. Feibleman, 1956: 29.

schooling not worthy of "discipline" status. Further, no stable body of content can be set aside as the basic body of either a discipline or the material for professional training. The longitude and the latitude for plotting the nature of education as a discipline must come from history and reasoning, respectively. Any framework for describing such content must be big enough to include any parts discovered through the careful analysis of actual programs yet small enough so that the categories suggest the working outline of what such a discipline might be like. The historical framework must include the full range of parts in an order which facilitates the charting of development.

In such a large project as charting an outline of the development of education as an intellectual discipline in the United States alone, however, the historical framework cannot be so detailed as to preclude overall summation and the perception of movement. The reasoned framework must set forth the potential meaning of education as an intellectual discipline; the historical framework must reveal which possibilities were realized and thus provide a chart sketching the evolution of the discipline.

The Reasoned Framework: "Theory" and "practice" seem to be the wrong terms with which to begin an investigation into the nature of education as an intellectual discipline. First, practice -- the schooling process that the discipline in one way or another studies -- is not being directly discussed. A theory-versus-practice dichotomy represents an insistence on the big-as-life view of education in which efforts to break the concept down into graspable parts are overruled. Second, the word "theory" has both automatic status and highly diversified meanings from usage in physics, criminology, political science, and design, for example. The task of defining theory for use in the discussion of education as an intellectual discipline would be almost as difficult as defining the discipline itself.

In place of the practice-theory duad the six categories which follow are broad enough to describe the potential content of an educational discipline without assuming that the actual content has achieved a level of organization that qualifies it as method, rules, principles, or theory.

The Media: "Talk" and "show" represent a beginning point for the discussion of the methods, rules, principles, and theories that have been put forth as ingredients in a discipline of education, or as instruments for the training of teachers. Talk, the spoken and written word, may attain a level of organization similar to theory in economics, or it may remain forever on the intellectual level of conversation. Show, the demonstration of skills and techniques or the performance of practice-teaching routines, can supplement talk by way of illustration or be explained through talk. Show and talk offer a genuine dichotomy with which to begin an examination of education as an intellectual discipline: show operates through active demonstration and talk employs verbalization. These two media, talk and show, are the lowest common denominators of teacher training and of a discipline of education.

The Central Elements: The principle ingredients of talk and show were condensed from the major conceptions of the schooling process in the United States and the principle kinds of programs for training teachers. Four ways of employing talk and show were found:

1. Straightforward description
2. Logical argumentation
3. Imaginative speculation
4. The creation of feeling (such as evoking an attitude of sympathy for childhood directly through the first-hand observation of children).

Though these seldom appear in pure form, each of these four approaches emerges now and again as a central tendency around which talk or show has been organized. Such elements grow easily into such two-part adverbs as "description-centered," "logic-centered," "speculation-centered," and "feeling-centered."

The Means of Perpetuation: Both the way in which the content of a discipline has been gathered and the way in which it is dispensed offer insight into its nature. Much of what is said in teacher-training is criticized for being pedantic, conversational, or obvious. Yet each is merely an excess of one of three main approaches to the accumulation of useful content: scholarship, which gleans what others have found out; common-sense, which draws equally on the wisdom and the ignorance of tradition; and observation, which checks things first-hand.

The Primary Purpose: Scholarship, common-sense, and observation can be disinterested, in a worldly sense, or they can be deeply involved in everyday affairs of practical living. Disinterested inquiry has been called knowledge-for-its-own-sake, or it has been taken to mean a primary interest in the advancement of knowledge itself. Deeply involved investigation differs from the pursuit of knowledge for its own sake by having its focus clearly fixed on what has to be improved now. The bulk of scholarship, common-sense reasoning, and observation used either as investigation or as course content has been deeply involved in such practice-centered tasks as improving instruction, administration, curriculum, method, or guidance.

The Product: Investigation into the schooling process and the passing on of findings in teacher-training courses results in the total product which Frankena called the academic discipline of education. Judged as a whole, that product has at different times been:

1. An accumulation of data
2. An eclectic body of content
3. A body of provincial doctrines, and
4. A set of personal beliefs.

The Philosophical Focus: And finally, the product can be classified as being primarily (a) generalizations made in advance of observed information (rationalism), (b) observed information without comprehensive generalization (factualism), or (c) generalization carefully based on information gained through observation and description (empiricism). Thus the reasoned framework can be arranged as follows:

Media	Central Elements	Means of Perpetuation	Primary Purpose	Product	Philosophical Focus
	Description			Accumulated Data	
Talk		Scholarship			
	Logic		Advance Information		Rationalism
		Commonsense		Eclectic Content	
Show	Speculation				
			Improve Practice		Factualism
		Observation		Provincial Doctrine	
	Feeling				Empiricism
				Personal Belief	

Such an arrangement facilitates the simple but graphic tracing of developments in either talk or show or both.

The Historical Framework: During 150 years of development in the United States education as a discipline grew first in close connection with teacher-training, then struggled for independence from it as research, and finally sought a broader, combined program in which both independent research and teacher-training could fit.

The Development of Teacher-Training: The four major programs of teacher-training employed in the United States during the nineteenth century (here called the initial period) provide the first ingredients of the historical overview. An appraisal of them will show which possibilities for a discipline of education were actually exploited. Those four nineteenth century teacher-training programs were: the Monitorial-Method, Object-Teaching, Herbartianism, and Child-Study.

Each is the subject of analysis in the first four chapters.

Struggle for a Science of Education: During the 1900-1925 or middle period the search for a discipline of education followed two paths: one leading toward independent research, the other toward an open route for the expansion of teacher-training content. Chapter Five explores the background of the concept of empirical science as it prepared the way for confidence in an independent discipline. The sixth chapter follows the change in the concept of a science of education beyond the middle period, but it concentrates on the key years around 1912 when a discipline of research independent of the content of teacher-training seemed about to be established. Chapter Seven documents the progress of that independent discipline through three widely spaced major projects: Paul Monroe's A Cyclopedia of Education (1911-1913), Guy Whipple's summation of the contributions of the National Society for the Study of Education to the scientific movement (1938), and Walter Monroe's Encyclopedia of Educational Research (1941).

The Combined Program: Throughout the quarter century of a struggle for an independent science of education powerful conservative forces worked to keep education as a discipline subordinate to teacher-training:

1. Chapter Eight reviews the conservative forces built up through programs of normal school, teachers college, and university departments of education professional training

during the nineteenth century.

2. Chapter Nine musters the criticisms which headed the conservative's attack against the idea of education as an independent discipline around 1930.
3. Chapter Ten describes the attempt of the foundations of education concept to keep education as a discipline a program of teacher-training course content.

The careful analysis of the major concepts dealt with in each of the ten chapters of the historical framework uncovers the varied and complicated pattern of the idea of education as a discipline. The analysis reveals a nature too complicated for easy summary. The chronology of development points out a direction which change has followed. At each of six points of major historical change the reasoned framework forms a lattice work for charting that change and presenting the pattern it exhibits in the concluding chapter. More than anything else, the whole project is an exercise in identifying a conceptual unknown -- education as an intellectual discipline. To this end, it employs the method of conceptual research to trace the evolution of talk about education.

Conceptual Research

In 1911 Paul Monroe, then just completing the editing of A Cyclopedia of Education worried in these words over the decline of what had previously been the backbone of scholarship: "The traditional method of logical investigation which appertained to such scientific study as existed in centuries preceding the nineteenth have ceased to receive any great consideration.[1] The worth of careful observation and detailed description of practical problems small enough to be thoroughly examined had just been fully appreciated in connection with building a discipline of education. The direction of development since then can be seen by comparing Monroe's statement with the one which follows from the educational psychology section of the 1957 Annual Review of Psychology:

> The tendency to neglect theoretical research and to concentrate on immediate and perhaps more practical problems, which may contribute little to the development of a systematic science, has been a frequent criticism of educational psychology. No marked change in this pattern of emphasis could be noted in the review period. . . . Concern about the responsibilities which educational psychologists have for theoretical development is not, of course, inconsistent with their responsibilities as applied psychologists. . . .[2]

The key question becomes "What is theoretical research in education?" Does it require a return to the traditional methods of logical investigation ubiquitous to all but the most highly quantified subjects before the twentieth century? In a modified "yes" to this last question W. H. Cowley of Stanford University suggested that conceptual research supplement and give meaning to factual investigation. Clarifying his terms in a 1956 article, Professor Cowley offered the following distinction:

> By factual research I mean adding new facts to the store of knowledge, facts which enlarge on present knowledge or which open up new, unmined veins. . . . Conceptual investigation differs from such studies in that it either organizes

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[1] Monroe, 1911: 61.1

[2] Keller, 1957: 48.

> facts already on hand or critically appraises existing concepts.[1]

Two years earlier Cowley had explained the limited extent to which conceptual research would return to the more traditional mode of logical investigations so current before this century. Conceptual research would guide factual investigation by providing a historical framework in this way:

> This means the tracing of the history of the ideas involved in them [existing concepts] and appraising their present status and their future prospects in the light of the historical continuum thus plotted. Only when this had been done is it possible to decide what factual investigations have relevance.[2]

Conceptual research is the missing link between a logical-speculative tradition prematurely abandoned and a body of immediately useful facts without theoretical portent.

In this exploration of talk about education and its relationship to education as an intellectual discipline the historical framework exposes crucial periods of past development to careful analysis in terms of the reasoned framework. The historical pattern of change revealed will be a chart of the evolution of talk about education. The sum total of possibilities exploited in the past will add up to the present meaning of education as an intellectual discipline.

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1. Cowley, 1956: 13.

2. Cowley, 1954: 14.

Reference System

The identification of sources should be judged by the three criteria of other kinds of bookkeeping: simplicity, clarity, and thoroughness. Over the past twelve years Professor Cowley has developed a method which qualifies on all three accounts.

Simplicity: A raised number in the body of the text refers to the abbreviated source descriptions footnoted at the bottom of the page. Each footnote, numbered in the order of appearance on that page only, provides the last name of the author, the date of publication, and a number which acts as a key to finding the full source in the Bibliography at the end of the dissertation. The full source reference need be given only once.

Clarity: The symbols *ibid*. and *op. cit*. are replaced by the following footnote at the bottom of the page:

1. Dewey, 1929: 28.3

The reader is thus informed that Dewey wrote the statement in 1929, and that the twenty-eighth item of the Bibliography will provide the full source. The number after the decimal indicates that the third listing under item twenty-eight will give the particular page number of this quote.

Thoroughness: The Bibliography at the end of the dissertation alphabetically lists the complete citation of each publication noted. The decimal listings under the main source offer a simple indication of the number of times that work has been used throughout the dissertation.

The Bibliography at the end of this dissertation includes only the sources actually cited in the project itself.

Acknowledgments

As advisor, and as director of the United States Office of Education grant which made this project possible, Professor Cowley has been the major source of both inspiration as to the nature of this undertaking and of guidance in the continual redefinition of the problem in progressively more concrete terms. The ready interest and sure suggestions made by Dean I. James Quillen were most valuable. Special mention must go to Mr. Ralph W. Tyler and Mrs. Ruth Eckert for their interest in this theoretical problem. And the consultant efforts of Hobert W. Burns in connection with certain basic problems of design provided much needed support.

CHAPTER ONE

PRACTICE-CENTERED TALK: MONITORIAL METHOD

> If a nation expects to be ignorant and free, in a state of civilization, it expects what never was and never will be.[1]

The withdrawal of British troops and rule confronted the Americans of 1783 with the task of sustaining the spirit which had conceived the Declaration of Independence and would soon produce the Constitution of the United States. One of the citizens most responsible for capturing that spirit in prose, Thomas Jefferson, hoped to insure its continuance through widespread national education. As part of his argument he offered the following contrast:

> In Turkey, where the sole nod of the despot is death, insurrections are the events of every day. Compare again the ferocious depredations of their insurgents, with order, the moderation and the almost self-extinguishment of ours. And say, finally, whether peace is best preserved by giving energy to the government, or information to the people. This last is the most certain, and the most legitimate engine of government. Educate and inform the whole mass of the people. Enable them to see that it is their interest to preserve peace and order, and they will preserve them. And it requires no very high degree of education to convince them of this. They are the only sure reliance for the preservation of our liberty.[2]

Other leaders of the period shared Jefferson's views. Benjamin Franklin and Benjamin Rush outlined conditions that a national system of education should take into account. In 1791 Robert

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[1] Jefferson, 1816: 45.

[2] Jefferson, 1787: 44.

Corman and James Sullivan both added their support to the view that (1) higher education in the United States should be viewed as comparable, if not superior, to European training, and (2) utilitarian training should be considered at least as valuable as classical learning.

The ideas so vital in precipitating the Revolution proved no less revolutionary once the new nation had been achieved. In place of military plans leading citizens proposed formulas for a system of national education. Drawing out the summary view of this interplay of philosophic thought and practical planning, A. O. Hansen wrote in 1926:

> The principles advocated by Tom Paine and others led many at the close of the Revolution to think that some social instrument must be invented whereby this liberal philosophy could become a permanent part in determining the thought in the new republic and in fashioning institutions in harmony with these principles.
>
> Chief among the means sought was a system of national education that would promote such a national culture as would be an expression of these principles. Many plans were suggested.[1]

Despite the proposals published for the widespread education of youth, a practical formula won out. It went under the name of Monitorial Method.

The Bell-Lancaster Monitorial Program

Duplicating the pattern of immigrant arrivals during the early 1800's, the monitorial method crossed half the world only to settle in the major cities of the United States for at least a generation.

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[1] Hansen, 1926: 37.

An Englishman, Andrew Bell, developed the modern form of Monitorial Method. In 1791 he accepted the post of chaplain and superintendent of the Military Male Orphan Asylum at Madras, India. After dismissing one of his teachers for refusing to use the native-school method of writing on sand tables, Bell hit upon the expedient of filling the vacancy with one of the more able students. The boy succeeded so well that Bell felt encouraged to experiment further. Eventually, boy monitors took over the conduct of instruction, and the adult teachers were dismissed.[1]

Five years later the program appeared in England where St. Botolph's, Aldgate, the oldest parochial charity school in London, first put it into practice.[2] The next year, Joseph Lancaster, former naval seaman and not yet twenty, began instructing the "destitute poor." Almost entirely without funds, he taught along the lines of the Madras system and quickly expanded his school to include a thousand students. Considering the problems of cost and control in an enterprise of that size, Lancaster's success speaks well for the efficiency and order made possible by the monitorial approach.

Lancaster toured both Europe and America, speaking about the marvels of the monitorial method. Such men as John Adams and De Witt Clinton became convinced that the method offered just what this country needed. Laymen and educators began referring to it as the Lancasterian method. Bell and the Madras System gradually faded into the background.

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[1] Gill, 1887: 32.1

[2] Gill, 1887: 32.1

From the perspective of 1891, J. P. Gordy, Professor of Education at Ohio University, traced the growth of the program in the settled regions of colonial America. He explained that the monitorial method was almost universally adopted in large cities such as in New York, Albany, Hartford, New Haven, Philadelphia, Baltimore, and Washington. By 1820 some twenty Lancasterian schools flourished in the State of New York alone.[1]

A quarter of a century after Gordy, John F. Reigart, Principal of Public School 166 in New York City, described the suffocating hold the monitorial program had in that city. Mentioning its grip on general instruction, Reigart wrote:

> The Lancasterian system of instruction was the official system of the New York Public Schools from their foundation in 1806 until 1853, when the schools of the Public School Society were taken over by the Board of Education. Until the establishment of ward schools in 1843, the system constituted a practical monopoly in the field of public education; it was supported mainly by taxes, administered by a self-perpetuating body of trustees. Teachers were forbidden to make any departure from the plans laid down in the by-laws and manuals.[2]

Lancasterian method had broken instruction up into separate classroom packages. Each teaching unit had to be completed before the next could begin. Lacking teachers with professional training and adult competence in judging what a student needed, school boards legislated lock-step instruction. Such legislation brought

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1. Gordy, 1891: 33.1

2. Reigart, 1916: 76.3

attention to the need for teachers, but as Reigart stated in the following sentence, the remedy was a long way off: "Until the foundation of the Normal College in 1870, the only training for the teachers of the New York Public Schools was secured through the monitorial system."[1]

Part of the staying power of the monitorial approach came from its capacity to supply a kind of teacher or monitor in quantity. This capacity, in turn, came from administrative simplicity -- by separating classroom instruction from discipline and the supplying of teaching materials, each could be reduced to routine. Maximum specificity of content goals did not interfere with explicitly stated behavior objectives. On the contrary, they supplemented one another: rote memorization of passages from the Bible dovetailed with obedience to orders.

Responsibility carried appropriate authority within an almost military hierarchy of obedience (fitting to the tradition of the Military Male Orphan Asylum at Madras, India). Or, viewed from another direction, the same program which provided economy and efficient control in colonial India offered the key to large scale education on a minimal budget in the newly decolonized United States. The heart of the program rested on a unified method: the same program provided teaching and teachers. In the war against illiteracy this amounted to making each enemy a comrade-in-arms simply by defeating him. Not only did each student gain a victory over illiteracy, and at the same time he became a potential teacher.

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[1] Reigart, 1916: 76.1

The Method of Monitorial Instruction

Monitorial Method separated administration and instruction within a hierarchical chain-of-command that matched authority with responsibility. In this way the number of children under instruction could be expanded considerably without loss of control or quality of learning. John Gill, professor of education at the Normal College, Chaltenham, England, listed the steps in that hierarchy as follows:

> The tutor had one child to assist in the preparation of his lessons, all the children of one class becoming the tutors of the next class below. The assistants had charge of a class. They were overlookers and examiners. . . . The teachers had charge of two or three classes. It was their business to take each class in turn, examining and stimulating both assistants and tutors. The sub-ushers were chargeable with the order and general arrangements, and with the supply of books and slates; and they were expected to report to the ushers the names of such children as they could not control. The duties of the usher were to conduct all the changes of the school, to act as a sort of general superintendent, and take the names of all such as continues disorderly after they had been reported by the sub-ushers. These officers were to prevent the too frequent appearance of the master in matters of discipline and general management. . . .
>
> The second feature of the Madras organization was its classification. It consisted of large classes formed into hollow squares, and was based upon reading only.
>
> The third feature . . . was the arrangements of the schoolroom. The objects to be secured in this part of organization are effective superintendence, combined with such isolation of the classes as will prevent one class interfering in any way with the efficiency of any other. Dr. Bell doubtless took his whole organization from the parade-ground.[1]

Lancaster inherited the method and passed it on to the organization of schools in England, Europe, and the United States. To it he added the idea of competition[1] -- not the matching of man against man but, in the emerging military and social tradition of his day, group against group, class against class.

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[1] Gill, 1887: 32.3

Monitorial method was a great practical success. Economy of instruction and the speed with which new monitors could be produced promised the minimal education on the national scope that Jefferson had envisioned. The strict obedience and mechanical learning of the monitorial schools, however, contradicted the spirit of Jefferson's appeal for improved social action and increased understanding. By issuing the proper commands for rote learning so successful in training a clerical force at Madras, the advocates of monitorial method sought to march mental forces to the front lines of social action in America. The system so adapted to the purpose of empire in India had invaded the public schools in a country dedicated to freedom and searching for self-direction.

Monitorial method constituted a practical but minimal approach to making information and skills of proven value available to many pupils by mechanical means. Behind the need for a practical program, however, lay the hope for something more which mechanically gained skills and information could not provide. Jefferson had looked forward to a changed people well-adapted to using, as well as to preserving, the liberty their new government assured. Monitorial method organized instruction but resisted the hopes of those who desired to make the schools both the expression and the instrument of a democratic social philosophy. To fill the gap

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1. Gill, 1887: 32.4

between attainable practical instruction and a hoped-for future, only partly defined but deeply felt, much talk about education developed. Practical as low cost instruction, monitorial method proved ill suited to the broad social visions which Americans expected to realize through the institution of the public schools. These visions permeated the talk about what the schools should do.

The gap between the vision of the desired society and the practical techniques of classroom instruction set the stage for the separation of two ways of talking about American education. The practice-centered viewpoint initiated by monitorial method called for the careful explication of rules and activities found useful through personal experience. Speculation as to the desired society and the place of the school in realizing it generated social philosophy which passed as educational theory. Interest in improving the quality of teaching led to the mixture of practical explication and philosophic speculation in numerous combinations throughout programs of professional preparation. The stories of those different mixtures must order the review of the various kinds of ideas which threaded throughout talk about education. Thus the evolution of education as a discipline can be plotted.

Monitorial Teacher Preparation

On Quintilian's cue that he who has just learned is best fit to teach, the followers of Bell and Lancaster combined the method of classroom instruction with the teacher-training process. As each student learned, he absorbed the ability to teach. Academic departments in colleges and universities adopt the same practice when they assume that mastery of a body of content brings with it the capacity to teach it. Instead of meeting the problem of how people can be trained to teach, such an approach either denies that there is a problem or else assumes that nothing can be done by direct attention. In either event, no significant body of pedagogical thought can be expected to emerge from such an anti-theoretical point of view.

The explanations and reasoning underlying monitorial method remained quite practical and common-sensish since the process of instruction had to be made intelligible to partly trained boys and to only slightly better trained adults. Though educational thought had a long history before Bell began his program at Madras, scholarly reflection had to be minimized in favor of a practical plan which could be used in the city where many children could be gathered into classes with ease. Consisting mainly of explanations about how to conduct practice, talk about monitorial method did offer a workable method of combining teacher-training and classroom instruction in a field too young and too poor to cope with duplication or complexity.

The Cost of Operation Give and Take

Praising monitorial method for its ability to provide public instruction cheaply, Reigart provided this comparison:

> No city in the early part of the century could have undertaken a system of public school as maintained at present (1916). It was largely through the cheapness of monitorial plan that the community was gradually led to assume the expense of public education. In 1823, 4090 pupils were

> taught at an expense per pupil of $1.80. Under the Board of Education, expenses based on the average attendance rose to $12 in 1851 and $30.54 in 1867.[1]

In addition to financial benefits monitorial training offered three attendant advantages:

1. Rote learning of information and skills required a minimum of materials.
2. Widespread control and instruction could be achieved with a minimum of adult personnel.
3. Teacher production developed in a geometric progression since one monitor prepared several students as instructors.

In return for such gifts the monitorial method made only two demands:

1. Teaching and learning had to be defined in terms of rote learning outcomes.
2. Administration had to be separated from instruction so a child could be handed that portion of the monitorial task best fitted to his talent and training.

Comprehensive public schooling could not have gone beyond the talking stage if a method for rapidly achieving minimal literacy and for supplying a vast supply of barely competent teachers had not been found. Bell and Lancaster supplied both in the same monitorial package, consisting of the following six ingredients:

1. A method of instruction and a body of content: memoromiter learning and drill in skill.
2. A method of monitor training: mastery of content and skills.

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[1] Reigart, 1916: 76.5

3. A method of control: unquestioned obedience.
4. A method of grouping classes: the hollow square based on reading ability.
5. A method of testing for mastery: faultless repetition from memory.
6. A method of administration: a chain of command which matched authority with responsibility and proven competence.

Each of the six methods was completely practical in that it outlined specifically how the conduct of some phase of the school was to be handled. Each was as nearly mechanical as possible in order to insure that practice would be routinized to such an extent that even a child could do it. Concerning this facet of Bell's program at Madras, Gill made the following comment:

> As he attached little weight to what is done for a child, and highly valued the teaching of children by children, the result was that the instruction was mere rote, and consisted chiefly of what was mechanical and verbal. It consisted chiefly in mechanical reading, writing, and arithmetic.[1]

The journey half-way around the world from Madras to the eastern seaboard of the United States did not alter the mechanical drill in basic skills or the rote memorization of verbal content. it was just such practical simplicity in the expectation of what was to be learned -- in the techniques of instruction, and in the extraction of obedience -- that made it possible for the monitorial schools of the United States to produce the number of teachers

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1. Gill, 1887: 32.2

needed in the new schools being built early in the nineteenth century.

Beginning Normal Instruction

In 1818 the Public School Society of the City of New York undertook the task of training adults to run the public monitorial schools then being built. To insure an accurate explanation of the monitorial method they invited Charles Picton from England to lead their teacher training program. When he was ready to begin instruction in the monitorial method, the Society issued the following summons:

> With deep solicitude for diffusing the means of education among the poor, and for the general extension of the Lancasterian system throughout the country, the trustees invite all those persons who are desirous of obtaining a knowledge of this method of instruction to repair to the schools under their charge, where in the space of six or eight weeks, a competent knowledge of the Lancasterian Methods of instruction can be obtained without fee or reward.[1]

Six weeks would be just long enough for a very practical explanation of methods of (1) instruction, (2) control, (3) monitor training, (4) grouping classes, (5) testing for mastery, and (6) administration through a chain of command. Such practical talk about methods of teaching to be understood by the average citizen probably contained little of a scholarly or speculative nature.

Despite its organizational and instructional practicality, the monitorial method ran into financial difficulty because the increasing demand for clerical and other kinds of literate workers

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1. Gill, 1887: 32.4

in the cities was so high. Describing this snag in the New York City program Reigart had this to say in retrospect:

> It was difficult to secure a supply of monitors, and very few children remained in school after the age of eleven. Of those who were mature enough to become monitors, few could be induced to remain after their parents discovered that more money could be earned in other occupations.[1]

As monitors left teaching to go into other occupations, public school instruction had to depend more and more on adults who were willing to teach. A major step in replacing monitors with adult teachers was taken when the four lower classes were dropped from the monitorial schools and made into a primary department. On this pre-monitorial level, women teachers replaced boy monitors shortly after the establishment of the Infant School Society in 1827.[2] At a salary of twenty-five dollars for the first year, however, the adult women who took over primary department instructions could not be relied upon to provide even the low-level standardized instruction which trained boy monitors had assured. To normalize, or standardize, instructional methods and materials the Public School Society of New York City provided Saturday classes for the new women teachers.

At first, these normal classes amounted to very little. Thus Commissioner Isaac Bell observed in a speech quoted by Reigart:

> The committee formed supplementary classes in nearly all the female departments of the public schools--many of them small and expensive; and although teachers were mainly appointed

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1. Reigart, 1916: 76.4

2. Reigart, 1916: 76.4

> from them, there was no pretense even of imparting instruction in methods and principles of teaching. There was no training in government and discipline, and, therefore, thousands of children were compelled to suffer loss and injury before these teachers acquired the necessary tact and power to manage their classes.[1]

For a long while normal instruction reflected monitorial practice. Gradually, however, as the idea of a teacher -- as distinct from a boy monitor -- became more clearly defined, the Saturday classes promised to become agencies for improving practical competence. Always behind the fumbling efforts at normal instruction stood the basic skeleton of a belief that with a little training teachers could become competent professionals. And solidly behind that idea stood such energetic educators as Horace Mann, always ready to draw sharp and useful dichotomies such as the following quoted by Gordy:

> One must see the difference between the hampering, blinding, misleading instruction given by an inexperienced child and the developing, transforming, and almost creative power of an accomplished teacher--one must rise to some comprehension of the vast import and significance of the phrase "to educate"--before he can regard with sufficient contempt that boast of Dr. Bell, "Give me 24 pupils to-day and I will give you back 24 teachers to-morrow."[2]

Like such intellectual leaders as Thomas Jefferson who thought about social philosophy while talking about the public schools, Horace Mann and other advocates of the full-time normal school thought in ideal terms about the "creative power of an accomplished teacher" even though their understanding came more from a depth of

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1. Reigart, 1916: 76.2

2. Gordy, 1891: 33.3

feeling than from careful observation and precise definition. Talk about the ideal teacher fitted well with speculation about the social philosophy of the perfect practitioner. Thus the ingredients for developing a speculative theory of education to be used in the normal schools had begun to accumulate at the same time that the practical explanation of monitorial method was exercising its anti-theoretical effect by setting obstacles in the path of change in thought and practice.

The normal schools which developed after 1840 became the major training ground for the teachers who supplanted monitors in the public schools. Yet those training schools had been so severely influenced by the Lancasterian approach to teaching that the adults taking the places of boys often had substantially their same outlook. The simple process of insisting on obedience within a hierarchical chain-of-command had allowed classes to grow to such size that military control and rote learning remained the only practicable kind of teaching. The same rigid standards of classification that enabled a bright boy to take charge of instruction had been translated into methods and rules of teaching which came into vogue with the people from whom reform had been expected. Summing up the retardation effect of monitorial method, Reigart wrote:

> The spell of Lancaster has hindered all reform movements. Pestalozzian methods which were supposed to be used in the infant schools were cast in the Lancasterian mold. The imparting of information rather than training in observation and eliciting of thought became the aim. There was developed a catchetical method of teaching which could readily be acquired by the monitor or the unskilled teacher. With the introduction of the higher studies into the grammar grades, a similar adjustment was made to the capacity of the monitorial type of teacher. The chopping up of all subject matter into

> easy mechanical stages, and the estimation of the pupil's attainments on the basis of memory became the almost universal practice.[1]

Monitorial method had attacked illiteracy by the steady, if slow, approach of implementing mechanical drill and verbal memorization. That same steady pace resisted being hurried, however. The characteristics which made it practical as a preparation for Pestalozzian ideas and techniques stood in the way of the rapid and thorough adoption of those ideas and techniques. Efforts at realizing the better trained teacher and the more humane pupil-teacher relationship central to Pestalozzi's plan had to take into account the permanent heritage the monitorial method had left behind, and sometimes that heritage was a hinderance.

As a practical program of control and instruction, the monitorial method did not encourage intellectualizing talk about educational matters. Organized around the single explanation and description of mechanical methods of instruction and military techniques of control monitorial talk set a narrowly practical precedent. Using the common-sense approach that a mechanic might employ to explain how to fix a car, talk about practical methods tended to remain linked to things and activities that might be seen and touched rather than to more subjective humane feelings about children and speculation about matters of social directions. Ordered according to practical activities such talk about education did not encourage theorizing. Such practice-centered thinking encouraged talk about education only insofar as it promised to increase the immediate efficiency of the conduct of instruction.

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[1] Reigart, 1916: 76.6

Monitorial method encouraged the development of narrowly practical rule-of-thumb to be used as methodology for teacher training in the newly established normal schools. Designed expressly to supply routines which could be carried on in school systems having an increased turnover of boy tutors, monitorial method sought after interchangeable parts. Method became a set of standardized instructional units and control techniques which could be mechani cally applied to large numbers of children. Divided into separate, standardized rules-of-thumb, talk about education was impersonal, non-theoretical, and utterly practical. Such practice-centered talk could claim neither the objective unity of a conceptual framework nor the subjective unity of a practitioner committed to the belief that he had intuitively grasped a comprehensive view of a task which he could not explicitly state.

In their effort to supplant monitorial teacher-training and instruction, advocates of object-teaching fostered the belief that an intuitively felt philosophy of life would produce the ideal practitioner. The intuitive feeling would be developed through speculative, if somewhat poetic, talk about "reality."

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CHAPTER TWO

FEELING-CENTERED THOUGHT: OBJECT-TEACHING

> The philosopher Johann Gottlieb Fichte referred to the Swiss educator [Pestalozzi] in his famous Reden an die Deutsche Nation [Addresses to the German Nation, 1807-1808], in which he emphasized the idea that the regeneration of Prussia, just defeated by Napoleon, could not be attained without a thorough-going moral and spiritual recovery. As a means for this recovery he recommended a new education according to the principles of Pestalozzi.[1]

Placing spiritual and moral concerns first, Fichte recommended the widespread adoption of Pestalozzi's educational practices and theory throughout Germany. By following Fichte's proposal, Germany achieved a position of influence and leadership which made her the capital of the American pedagogical world from the close of the Civil War to the beginning of World War I.

Fichte's educational lodestar, Johann H. Pestalozzi, conducted his school at Yverdon during the same score of years (1804-1824) that the Lancasterian Monitorial programs were being established in the major cities of the United States. Pestalozzi and his followers, however, emphasized the importance of affection and individual attention within the framework of the method of object-teaching. This view of teaching differed fundamentally from the mechanical, verbal, and military practices developed under the monitorial method. Envisioning the teacher as a well-trained,

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1. Ulich, 1935: 90.

well-informed, sympathetic adult who taught in accord with the principles of the object-method, American educators built an idealized model of the future teacher. In contrast with these hopes, the boy monitors of Lancasterian origins seemed as unfit for teaching as the youth of the Children's Crusade had been for fighting the Saracens.

Joseph Neef first practiced Pestalozzian ideas in the United States. Beginning an object-teaching school in 1809 in Philadelphia, he employed and wrote about many of the ideas he had learned while working with Pestalozzi in Europe. Other Americans carried forward this new approach to teaching. The unsuccessful experiment in communal living initiated by Robert Owen at New Harmony, Indiana in 1825 set the sympathetic understanding of the child as a primary goal. Similar in purpose, but with greater success, the kindergarten took hold in this country just before the beginning of the Civil War. With it came Froebel's expansion of the rationale behind object-teaching. All this established an ideational and a practical basis for the rapid development of this anti-monitorial view of teaching once peace came again.

Along with the ideational and practical foundations of object-teaching, the economic basis for abandoning monitorial instruction gained momentum during the first half of the nineteenth century. When the monitorial program got under way, the United States had just acquired the wild and unexplored Louisiana Territory. Monitorial method succeeded in providing a program for establishing minimal literacy during a thirty-year period when the West borrowed wealth and manpower in great quantities from the eastern part of the country. When, however, the repayments from western territories pyramided in terms of cattle, lumber, wheat, and gold, the nation could afford to entertain more ambitious, more complex, and more expensive programs of public instruction. Increased prosperity encouraged talk of a more speculative cast than the narrowly practical explanations monitorial method supplied. The object-method so successful in Germany had just such a speculative flavor in addition to its instructional practicality.

As the Civil War threatened, Edward Sheldon organized a program to train practicing teachers in the use and the rationale of object-teaching. Hoping to remedy the faults of rigid monitorial instruction, he incorporated demonstration and practice teaching. In demonstration teaching an expert would show the student teacher how the method worked. In practice teaching the student would show how well he had mastered the new method. Hoping to provide the teacher with a broader understanding of the method than practical explanation and "showing" would supply, Sheldon encouraged the speculative talk which Pestalozzi, and later Froebel, had developed as a rationale of the object method. As the local impresario of the object method, Sheldon drew together a three-act program of teacher training: practical explanation, show (demonstration and practice teaching), and speculative talk. In those elements he had the ingredients of a discipline of education, though the primitive state of the speculative talk did not provide the kind of unity the Herbartians developed later.

Speculative Talk about Object-Teaching

In works like those of Kant, Fichte, Schelling, and Hegel, eighteenth and nineteenth century Germany exhibited such an outburst of speculation on the nature of man, nature, and God that it would seem odd, indeed, if the pedagogy imported from that nation lacked such elements. In fact, it did not. The educational theories which Froebel and Pestalozzi developed for the support of the object-method belonged to that same tradition of philosophic speculation.

Metaphysical Speculation: In 1856, Froebel's kindergarten program came into the United States in its German-speaking form through the labor of Mrs. Carl Schurz, at Watertown, Wisconsin. Spreading to Columbus, Newark, Louisville, and Detroit, it took English-speaking form at Boston in 1860.

Emphasizing self-expression and contact with the objects which Froebel called "gifts," kindergarten teachers brought physical activity into the classroom in a manner quite foreign to the mechanical and verbal concept of learning that the monitorial method had enforced. Froebel had a rationale with which to support this change in technique. Under Froebel's educational theory each cube, block, pyramid, and sphere -- each gift -- had a special symbolic significance. For example, the one-ness of humanity emerged from the unity of the sphere. In another instance, a ring-around-circle of children holding hands led to the unity of Christian brotherhood under God.

With this concern about the mystical nature of things leading him toward philosophy -- in particular to metaphysics -- Froebel might be called "the metaphysician of the object-method." He filled his talk about the object-method, or reality teaching, with speculation. Summing up the philosophic nature of Froebel's educational theory, Jessie White, formerly vice-principal of the Home and Colonial Society's Kindergarten College, supplied the following list of claims made for the object-method concept:

> (1) The training of the spiritual energy of man as one sprung from God, the child of God.
>
> (2) The training of the body as the tool of this spirit.
>
> (3) The correct apprehension of all the objects of the external world.
>
> (4) The correct designation of them and their relationships.[1]

By attaching symbolic significance to objects of instruction and classroom activities, Froebel made theologic and philosophic speculation a matter of direct educational concern. As a strong man might make opposite ends of an iron bar touch one another, Froebel brought metaphysical matters into contact with classroom practice. Having a clear view of God and a "correct" apprehension of the world as it "really is," Froebel anticipated passing these insights on through the pure symbolic form of the object or the classroom activity. Once introduced into talk about instructional matters in the United States, such speculation about the symbolic significance of acts and objects developed a life and history of its own as educational philosophy.

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[1] White, 1905: 97.

Before 1900 philosophic questions became issues of dispute to be defended, justified, and affirmed before talk about instructional method could proceed. Speculation attempted to set forth a world view of what lay beyond sense perception. To reach beyond sense perception, it became necessary to speculate in terms of poetic devices since reality could not be directly perceived. Emphasizing the social rather than the metaphysical side of Froebel's speculation, MacVannel of Columbia University provided the following example of how his symbolism was being employed in 1906:

> . . . in the Mother Play, his "most triumphant achievement," it may be noted how Froebel works out the idea of education as a process of interaction between the two factors of the experience-process, society and the individual, represented by the mother and child. On the one side you have the child with its impulse, the need, the unformed activity; the mother (who represents the social or normative side of the process) contributes the direction, the habitual form, the value or interpretation. As Miss Blow expresses it, Froebel sought for the point of contact between the manifest needs of the one and the instinctive effort of the other to meet such needs. The child and the mother (or what the mother through thinking love does for the child), for Froebel and his Mother Play, therefore, are the terminal aspects of a unitary educational process. What Froebel would have the mother do, therefore, is so to correct, organize, and enrich the child's crude but very real experiences, that is experience at any moment may be full and rich and therefore preparatory to a still fuller and richer experience in the future.[1]

Yet Froebel's social and metaphysical speculation and the uses to which they were put represented only the top layer of talk about object-teaching. Beneath that lay the rational psychology Pestalozzi had begun in his effort to make instruction accord with a

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1. MacVannel, 1906: 55.2

philosophy of mind.

Speculation about Mind: Under Pestalozzi's direction a full-scale program for maximizing the instructional and child-development benefits of object-teaching developed at Burgdorf and spread its influence across Europe. At Pestalozzi's school the demands of management, attention to the perfection of method, and controversy with staff members kept much of his attention focused on practical, everyday affairs. In reflecting about education, however, he approached the practical problem of classroom instruction with a philosophic question in mind as his statement revealed:

> I am trying to psychologize the instruction of mankind; I am trying to bring it in harmony with the nature of my mind, with that of my circumstances and my relations to others. I start from no positive form of teaching, as such, but simply ask myself: "What would you do, if you wished to give a single child all the knowledge and practical skill he needs, so that by wise care of his best opportunities he might reach inner content?"[1]

By reflecting on his own mental processes and by reasoning about the nature of the mind of the child, Pestalozzi sought to understand what he was doing and to use the insights of such thinking to improve his practice. Instead of limiting talk to rules of conduct and methods of instruction, as monitorial method had done, Pestalozzi encouraged speculation as to what man's mind might be like and how he might best attain "inner contentment."

This mixture of rational psychology and personal philosophy became inseparable from the practical explanation which surrounded object-teaching as it came down from Pestalozzi and from Froebel.

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1. Pestalozzi, 1898: 74.

Though monitorial method in the United States had set up obstacles to the practice of object-teaching and influenced the practical explanation of method, the fact that the followers of Bell and Lancaster had not developed any extensive speculation left the ground floor of educational theory easily accessible to the ideas attached to the object-method.

Beginning a Discipline at Oswego

Lancasterian instruction held fast in many of the major cities of the United States through the first half of the nineteenth century. In a few spots, however, a different kind of program emerged like spring flowers through the snow to announce an imminent change of climate. The first such program for the development of object-teaching Joseph Neef introduced at about the same time the Lancasterian programs took hold in the cities. Neef's program, Will S. Monroe, professor of psychology at the State Normal School, Westfield, Massachusetts, later declared, chronicled the early appearance of object-method oriented schools. Writing in 1907, Monroe made the following statement:

> In America object-teaching was employed in various Pestalozzian schools of Joseph Neef in Philadelphia in 1809, in Village Green, Pa., in 1813, in Louisville, in 1816, in New Harmony, Indiana, in 1825. Neef, formerly associated with Pestalozzi at Burgdorf, published this country's first book on method and probably the earliest book on pedagogy in English: Sketch of a Plan and Method of Education (1806).[1]

Several good examples of Pestalozzian object teaching had broken ground for a new approach to education in the United States, and the success of kindergarten programs after 1856 introduced a new batch of seeds. Coming at a time when the Lancasterian system had run full-course to end in the senile knotting of military-type control and mechanical drill, the object-teaching of the kindergartens brought the youthfulness of unfettered movement to the attention of teachers and parents.

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[1] Monroe, W. S., 1907: 63.

Diversifying Talk: In 1861 Edward Sheldon began systematically training teachers in the use and the understanding of the object-method at Oswego, New York. Faced with objection about the difficulty and impracticality of object-teaching, Superintendent of Schools Sheldon set out to demonstrate that the old job of teaching spelling, arithmetic, geography, and grammar could be done "in a much more rational and efficient way."[1] Beginning with an in-service Saturday training program for the teachers of Oswego, New York, he built his program to full-time Normal School proportions. To insure that the distortion of European ideas would be minimized, Sheldon brought Miss Margaret E. M. Jones of England's Home and Colonial Training Institution to Oswego as a lecturer on the theory of object-teaching. By way of maximizing the effectiveness of her one-year stay, Dr. Sheldon attended her lectures regularly and took notes such as those listed by Dearborn after the following introductory statement in his 1925 book:

> The theory courses, such as mental and moral philosophy or philosophy of education, were a mixture of the history of education, physiological psychology, and general principles of education. As in the Home and Colonial Training

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[1] Gordy, 1891: 33.5

> Institution the psychology was limited, and comprised discussions concerning the nature and order of development of the various "faculties" of the child -- mental, moral, and physical. . . . No better authority can be presented in setting forth the principles which formed the framework of these theoretical or philosophical courses than the notes of Mr. Sheldon taken while attending, as a regular student, the classes at Oswego given in 1861-62 by Miss Jones. The following statement of Pestalozzian principles is transcribed from the Original manuscript:
>
> 1. Begin with the senses.
> 2. Never tell a child what he can discover for himself.
> 3. Activity is a law of childhood. Train the child not merely to listen, but to do. Educate the hands.
> 4. Love of variety is a law of childhood -- change is rest.
> 5. Cultivate the faculties in their natural order. First, form the mind, then furnish it.
> 6. Reduce every subject to its elements, and present one difficulty at a time.
> 7. Proceed step by step. Be thorough. The measure of information is not what you can give, but what the child can receive.
> 8. Let every lesson have a definite point.
> 9. First develop the idea and then give the term. Cultivate language.
> 10. Proceed from the simple to the difficult, i.e., from the known to the unknown, from the particular to the general, from the concrete to the abstract.
> 11. Synthesis before analysis -- not the order of the subject, but the order of nature.
>
> In elaborating on the development of the intellectual powers of the child, he (Pestalozzi) held that there is a certain order in which they unfold and increase in strength. It follows that there should be an orderly or a systematic procedure employed in stimulating and directing the growth of childhood. Two questions, then, emerge for serious consideration. First, in what order do the intellectual faculties of a child develop? Secondly, how shall teachers act in paralleling this order by the educational procedure employed?[1]

Dearborn's introduction, just quoted, identified the philosophic nature of the educational talk dispensed by Miss Jones at Oswego. Mental and moral philosophy, which mixed historical information with rational psychology and general principles drawn from both successful experience and self-evident assumptions, could be speculation of a high order. Sheldon's notes show that the philosophy of education taught at Oswego had a thin veneer of pedagogical thought drawn from laws of childhood and nature and applied as practical rules of thumb.

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[1] Dearborn, 1925: 17.1

Self-evident certainty appeared on six levels of thought: (1) observation, (2) common-sense reasoning, (3) the more technical sense of specialists, (4) definition, (5) deduction from premises, and (6) insight into both paradox and contradiction, into a united point of view.

On the scientific level everyone who had even watched children had to agree that they were active in a variety of ways. In a sense, such laws of childhood could claim to be the product of scientific observation. On the common-sense level of ordinary thought it certainly seemed obvious that every lesson should have a point and that the basic elements of the subject should be presented step by step, one difficulty at a time, until thoroughness had been achieved. In a slightly more technical way it was just as obvious to many teachers that the child should discover things for himself. By definition, learning had to be based on achievement, not on the amount of material presented. From the particular to the general, from the concrete to the abstract was implied in the basic assumption of object-teaching that learning must begin with the senses; thus such derived principles had to be certain and true. And finally, in the context of the rest of the rationale, paradox and contradiction melted into profound insight under the realization that, when conducted in harmony with the real world, educational practice could contain no discrepancies no matter how words might be arranged.

Philosophic speculation about the nature of nature, of the child, of the mind, and of learning was transposed into terms which supported rule-of-thumb methods for the practical explanation of how to conduct classroom instruction. The wide-ranging metaphysical speculation of Froebel and the narrowly practical talk about how an object must be handled had been verbally joined. The linking of such "talk" about education with the "show" of the practice-teaching program at Oswego marked the beginning of a comprehensive discipline for the professional training of practitioners. Theory was being joined to practice.

Linking Talk with Show: Though introduced into American teacher-training by Dr. J. W. Dickenson, principal of the Normal School at Westfield, Massachusetts,[1] practice-teaching reached full-scale proportions under Sheldon at Oswego. There the use of practice-teaching in all grades of the public primary and high schools first found expression. By carefully etching out each corner of its practice-teaching program, the normal school at Oswego traced out the first figure of the new fresco depicting education as a profession. In order to illustrate practice-teaching on such a scale, however, the Oswego people had to routinize their program thoroughly. In 1865, Professor S. S. Greene, president of the National Teacher's Association made the following report in which he described the practice-teaching routine at Oswego, and explained how it functioned in connection with the training of teachers in the use of the object-method. He reported his observations and impressions this way:

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[1] Gordy, 1891: 33.11

> Let us now pass to the Training School. Here, it should be borne in mind, are regular Primary and Junior schools under permanent teachers, who act the part both of model teachers and critics before the members of the Normal School -- or Training class. . . . The regular teacher gives a lesson to the class. The assistants observe and mark the methods as models for imitation both as respects the steps in the lesson, and the management of the class under instruction. One of the assistants -- a pupil teacher -- next gives a lesson. She is now under a double criticism; first, from her equals, the other pupil teachers present; and second, from the regular teacher. She is not doing *fictitious* but *real* teaching. . . . But now the scene changes. . . . In this room the theory of teaching is discussed and exemplified by practical lessons given by the Normal teachers to small classes of children brought in from the Primary and Junior grades. These lessons are to be drawn off by the class and examined as illustrations of the theory. Then, again, a pupil is called upon to give a lesson to a similar class, while both the Training class and teacher act as critics. The points of excellence and of defect are freely discussed, and practical hints as to the method of the lesson, its effects upon the class, etc., etc., are freely given.[1]

Professor Greene's report described the double demonstration program at Oswego. First, the process of show presented a model teacher in a model demonstration. The novices in turn each showed their ability to emulate the models. In the climate of such demonstration and exercising of skill, the normal school teacher and the students talked about practical educational problems which the process of showing had uncovered. Second, the educational theory suggested activities to be demonstrated by the model teacher, practiced by the novice, and discussed by all. Speculation and

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1. Greene, 1865: 34.

practical talk were given unity of meaning through demonstration and discussion under the guidance of a specialist in both the theory and the practice of instruction.

Regular observation, guided analysis and generalization were reinforced by imitation, exploration, and evaluation. In a sense, the critic teacher used himself and his students as objects. This method of teacher-training focused attention on activities the student could see and do. In addition, the critic teacher defined the role of teacher by means of examples which the student tried to imitate as well as by means of explanation. The student had a concrete professional image of the teacher before him in much the same way that the child had objects to handle. In the novice's training that image grew in meaning as he more fully realized his prowess as a teacher.

As the model became more clearly understood, first at Oswego and then out in the field, it became a criterion for evaluating normal school programs and the attainment of professional status. Sheldon himself formulated four of the essential qualifications of the model. They were quoted as follows by Dearborn in 1925:

> For this all-important work the teacher needs to be well-equipped. Among the many qualifications required the most essential are: (1) a thorough knowledge of subject matter, (2) a ready hand at drawing so that accurate representation may supplement the use of real objects, (3) easy communication with children, and (4) the power to arrest and sustain the interest and attention of children. Our normal schools must no longer be preparatory schools in the various branches of study but in the art of teaching alone. This reformation is not the work of a day but years. That it is destined ultimately to triumph as education becomes better known as a science, with its well-defined laws and principles, and teaching more thoroughly studied and practical as an art,

we have not the slightest doubt.[1]

More important than the items in his specifications of teacher qualifications is the fact that Sheldon had grasped the idea of making the art of teaching as full and as explicit as possible. If it could not be written out as an objective discipline, it might at least be embodied in a comprehensive program of talk and show. If the program as a whole could not exhibit an ideal blend of speculative and practical talk made intelligible through demonstrative and imitative show, at least one critic teacher might emerge as a standard model of the good practitioner. In fact, the critic teacher's role called for the exhibition of an expert practitioner's skill and the exhilaration of an amateur philosopher's intoxication with speculative thought.

Practical talk, demonstration, and speculation, therefore, had to be balanced through translation of thought into action and of action back into words. In all probability Pestalozzi and Froebel underwent free translation, and object-teaching suffered as much distortion as poetic license could introduce. But the Oswego program did turn out a kind of standard measure of the professional practitioner even though the degrees of tolerance varied from person to person and from time to time. And these standardized practitioners from Oswego went out to newer normal schools and passed along the approximate dimensions.

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1. Dearborn, 1925: 17.2

The Oswego Influence

Having begun at the same time as the Civil War, the Oswego program had four years to get under way before national conditions favored peaceful advance. The strength, experience, and routine developed during the war years enabled the Oswego program to accept the challenge of providing trained teachers for the normal schools being built all over the country. As evidence of the way the Oswego Normal School met the challenge, Gordy mentioned the influential role its graduates played in staffing the normal schools of sixteen states -- Minnesota, Indiana, Pennsylvania, Connecticut, Rhode Island, Vermont, New Hampshire, Maine, Wisconsin, New Jersey, Nebraska, Missouri, Mississippi, California, Kansas, and Iowa. Of the seventeenth he said:

> All the State normal schools in New York, excepting the one at Albany, have been organized on the Oswego plan, with Oswego graduates to do the work in methods and criticism.[1]

In those post Civil War years, the spread of Oswego graduates throughout normal schools all over the United States placed a unified point of view at the base of much of this country's teacher training. It was not so much a unity of explicit statement as of common feelings and point of view toward such speculative matters as the nature of childhood, such practical talk as rule-of-thumb methods, and toward the belief that demonstration had prepared them to recognize good teaching when they saw it. The combination of show and talk had turned out standardized models of the good

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1. Gordy, 1891: 33.6

practitioners who were employed to duplicate the demonstration techniques they had learned and who were dedicated to expand the speculation to which they had been exposed. It was in this spirit that they contributed to the mid-nineteenth century tendency noted by Edgar B. Wesley of Stanford University in the following paragraph:

> Discussions concerning philosophies and theories of education overshadowed the problems of classroom instruction. In fact, classroom procedure was regarded as a kind of mechanical or personal matter, quite beneath the dignity of major attention from leading educators. The teacher was thus left to work out the application of theories and philosophies, and when he failed to understand philosophic principles and resorted to devices and mnemonics, he was scolded and ridiculed for being superficial and unperceiving. In spite of the supposed emphasis which normal schools placed upon methods, the fact was that specific procedures for use in the classroom were neglected. This neglect of methods helps to explain the great popularity of Herbart in America, for he had a formula, a procedure, a set sequence of steps that promised tangible outcomes and provided guidance and assurance for the teacher.[1]

After all, a good show was worth repeating, and a good idea was worth pursuing.

The Spirit of a Discipline

Monitorial method made principles of education out of such practical material as the organization of a hierarchical chain-of-command or the rules of thumb for classroom instruction. As practical principles, such talk invited little intellectual pursuit since they were straightforward and simply explanatory. Though monitorial method had its practice-centered talk, such explanations

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1. Wesley, 1957: 94.1

were basically non-theoretical. Like the circumference of a circle, each part of monitorial method tended to curve around a common practical center. Pestalozzi and Froebel put doors and windows in the circular wall of practical explanation. Though the explanations of object-method circled around the same kind of practical center, from time to time intellectual windows invited thinkers to look out in their searches concerning the nature of mind or the spiritual and symbolic meaning of objects and activities found in the classroom. Wonder about spiritual and symbolic meanings in the minds of amateur speculators brought conversation and cracker-barrel philosophy into normal school training.

Under the Oswego program, which invited experts in the demonstration of practice to indulge in amateur philosophic talk, the normal school teacher synthesized theory and practice in both action and word. Such a speculating-demonstrator personified the ideal practitioner. Commissioned to turn out practitioners in his own image by synthesizing talk and show, he became a skilled technician in the communication of a personal philosophy of education. These philosophers in the normal schools had captured the spirit of an intellectual discipline of education. Though their formulations centered more on an expression of feelings than on the logical relationship among ideas, they had taken the first step toward becoming conceptualists. That step was implicit in the transfer of interest which led them away from techniques for practical application and toward speculation for the sake of the idea involved. The next step in the evolution of education as a discipline was to shift the emphasis from feeling-centered to logic-centered thinking.

CHAPTER THREE

LOGIC-CENTERED THEORY: HERBARTIANISM

> The great victories of Prussia proved conclusively that broad system of education. The well-known saying, that the victory of Sadowa was won by the Prussian schoolmaster, though somewhat one-sided, is partially true. It is an undeniable fact that the superiority of the German army was due principally to the general culture of all its members; for even the subaltern officers were graduates from the common schools.[1]

On the plains of Konigratz (Sadowa) in Northern Bohemia, the legend of German invincibility had a modern rebirth in 1866. The pronounced victory of Prussian forces over the troops of the Austrian Empire dimmed the shame of Napoleon's earlier conquest. Fichte's appeal for spiritual rejuvenation could hardly have had a more satisfying answer. Teachers became heroes, the educational system became legend.

A year later, in 1867, the German intellectual lion roared across all of Europe as Karl Marx's remarkable feat of scholarship burst forth in the publication of the first part of Das Kapital. Applying the tradition of Fichte, Kant, Schelling, and Hegel to social and historical philosophy, Marx gained new attention for Germanic scholarship with the scope of his synthesis. In art, science, and philosophy, the German intellectual climate had generated much of the culture most cherished throughout the world. Yet like the Greeks before them, they had proven that a nation of great philosophic wisdom and artistic sensitivity need not forgo its ability to act in battle. How could American educators ignore such a compelling recommendation? Indeed, they could not; and they did not.

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[1] Paulsen, 1897: 69.

Even before Herbart's death in 1841 such immigrant educators as Joseph Neef had established a beachhead for the later invasion of German pedagogy. Froebel's quick-spreading kindergarten linked talk in education with religious symbolism. By 1861 Edward Sheldon had taken up Pestalozzi's ideas directly, and German speculative thought followed naturally. Shortly after 1866, graduates from Sheldon's normal school at Oswego began their ambassadorial work of spreading the theory and the practice of object-teaching throughout newly established training programs. As models of a way of teaching and a way of believing, these graduates were dedicated both to the rational psychology and to the humane treatment of children which Pestalozzi's pedagogy had emphasized.

Gradually, the United States of the Reconstruction era was employing teachers committed to a personal philosophy of education which they understood only in part but which they believed in completely. On all levels, the conscious understanding was German in spirit. Froebel's spiritual symbolism related practical kindergarten activities to a metaphysics of God and Man. Pestalozzi's elementary school object-method was linked to laws of childhood and learning. And in the newly developing secondary schools, Herbartian theory offered the greatest promise. Together, the ideas of Froebel, Pestalozzi, and Herbart resembled an intellectual tripod capable of supporting comprehensive public education in the United States from kindergarten through high school. -To strengthen the tripod, the Herbartians sought to achieve an explicit philosophy of education based on the systematic arrangement of logical thought or rational science.

The Herbartians

During the second half of the nineteenth century travel to Germany for purposes of observing the Prussian national system or contacting Herbart's disciple, Professor Wilhelm Rein, became a kind of professional avocation for American educators. The brothers, Charles and Frank McMurry, studied Herbart's writings with scholarly diligence. Charles De Garmo found extraordinarily attractive the amalgam of literary and philosophic thought with which Herbart had cemented together the educational side of his thinking. C. C. Van Liew paid particular attention to problems of translation so that Herbart's thought could be made available to American educators at home. These Americans and their associates quickly became expert authorities on matters of Herbartian doctrine and practice. Being quite vocal experts, they soon offered their own writings and interpretations as the basis for a new movement in American education, Herbartianism.

The Herbartians made their way into four related parts of the over-all structure of comprehensive public education: The National Herbart Society, the National Education Association, the secondary school, and university departments of education. With the foundation of the National Herbart Society, father of the National Society for the Study of Education, the Herbartians began a campaign of scholarship and publication in professional journals. In their own society and in those closely related to it through overlapping membership (such as the National Education Association) the Herbartians continued to expand their rationale and their influence. Being the first group in American educational history with a well developed theoretical structure, their articles and books had a wide and cumulative influence. Capturing key positions in the newly established university departments of education on the basis of publications and activity in professional organizations, Herbartians quickly acquired strategic platforms for the further dissemination of their concepts and extension of their influence.

The secondary schools of the United States remained quite undeveloped during the first three quarters of the nineteenth century. Kindergarten and primary school teacher training had demanded the full attention of the normal schools. With the opening of the university departments of pedagogy after 1875, a new potential for professional preparation appeared in education. These the Herbartians largely commandeered.

Having a reputation for scholarship, the university departments also suggested the possibility of new research in education as a field of independent study. For twenty-five years this new potential, however, lay dormant while the departments gradually grew in strength and number. By 1900, in conjunction with the newly organized teachers colleges, the university departments found themselves faced with the task of training the nation's secondary school teachers. Herbartianism seemed to meet the needs of such departments. Of the pedagogical doctrines it had the most scholarly content and thus succeeded best in overcoming the stigma picked up from association with normal schools. The Herbartians had succeeded in making themselves known for the systemization of educational thought through a vigorous program of addresses and publications. Further, their plan emphasized the same subject-matter content that the university cherished -- literature, history, and philosophy.

By 1892 the Herbartians had sufficient strength and numbers to form a club at the Saratoga Springs meeting of the National Education Association. Three years later the National Herbartian Society for the Scientific Study of Education came into existence at the Denver meeting of the NEA. Though the organization disclaimed allegiance to any one educational idea, of the nine original members of the executive council the majority were confirmed Herbartians: Charles De Garmo, Nicholas Murray Butler, John Dewey, Wilbur S. Jackman, Elmer E. Brown, Frank McMurry, Charles McMurry, Levi Seeley, and C. C. Van Liew.[1] Dewey stood out as the only active opponent of the Herbartian position.

The early issues of the society's publications carried extensive explanations of the Herbartian viewpoint, largely unopposed except by the criticism of basic principles by Dewey. Following the reformation of the group into the National Society for the Scientific Study of Education in 1901, Dewey did not appear on the new executive committee.[1] He did continue his membership in the society, however. As a group, and as individuals, Herbartians became a powerful influence as this capsule summary by Wesley stated:

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[1] McMurry, C., 1896: 56.

> For the next twenty years [after 1895] the Herbartians wrote most of the educational books, took complete possession of several educational journals, proclaimed the issues for debate, and dominated professional discussions. Almost every prominent educator of the period endorsed all or some of the Herbartian doctrines, but the most active disciples were those who had been students of Dr. Wilhelm Rein at Jena and who were located at one time or another at Illinois Normal University -- the brothers Charles A. McMurry, and Frank M. McMurry, Charles De Garmo, and C. C. Van Liew.[2]

The Herbartian Framework

Bell, Lancaster, Pestalozzi, and Froebel were not, primarily, scholars. Each thought as deeply as he could about educational matters; but whether concerned with symbolism or psychology the theoretical side always wore the common-dress of the vernacular in grammar, logic, scope of thought, and depth of background.

As successor to Immanuel Kant in the chair of philosophy at the University of Königsberg, Herbart brought the language, methodology, and complexity of careful scholarship into his theory of education. In a sense, it might better be said that he brought education into his philosophy. He made heavy use of the body of historical educational theory so long dormant. Those who followed the Herbartian approach in this country continued to incorporate scholarly content into their educational theory. Compared with the pedagogical theory of the monitorial method, or the object-method, the Herbartians had an elegant geometric proof. They spared no expense of reason in trying to build a comprehensive educational theory in which rational psychology and purpose figured heavily. In turn method played an important part in the practical side of their thought. But most of all each part of the theory was tied to each other part with an over-all moral concern. From their own point of view, the Herbartians claimed success in constructing the first comprehensive, logical theory of education -- a rational science of systematic reasoning. The science promised a harmony of philosophic, literary, historical, and methodological concerns.

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[1] National Herbart Society, 1902: 66.

[2] Wesley, 1957: 94.2

Rational Theory: At the first two meetings of the Herbartian Society Frank M. McMurry, newly appointed professor of pedagogy at the University of Illinois, expounded the American version of Herbart's pedagogy. McMurry's exposition at the Saratoga meeting of 1892 covered most of the doctrine. For convenience, his formulation can be divided into eight parts: (1) the aim, (2) the instruments, (3) the psychological means, (4) the curricular means, (5) the psychological theory, (6) the philosophical theory, (7) the pedagogical theory, and (8) the pedagogical method. Together, these parts contain infinitely more complete and scholarly talk about education than had been available under Lancasterian monitorial method or Oswego object-teaching.

1. The Aim -- Moral Character: The most comprehensive concept in the Herbartian system is both its unifying theme and its most ambiguous idea. Relying on scholarly and common-sense agreement

that man's ultimate goal is a moral life, McMurry set forth the first part of Herbartian theory in the following manner:

> According to the Herbartians, the teacher cannot reach the best results by trusting merely to good fortune in the training of children. He must follow a systematic plan, the first essential of which is a definite aim. . . . With the Herbartians this supreme and ultimate object is of an ethical nature: it is the development of good character. The welfare of the child himself, as well as that of the State, gives to character-building the highest rank. All of the other objects of the school, such as useful knowledge, mental discipline, etc., are subordinate to it, and mere means for the accomplishment of the final end.[1]

Assuming that everyone knew what good character consisted of, the Herbartians fastened on this as their ultimate objective. In a climate of thinking which endorsed absolute values cast in the form of Christian ethics or their counterpart as translated from other cultures, McMurry's ultimate aim of education seemed to make good sense to an increasingly social-conscious America. Welfare for both the state and the child seemed laudable, and the development of either one seemed to insure the other. By building in maximum ambiguity of meaning at the highest level of theoretical abstraction, the Herbartians could claim widespread consensus since anyone could supply his own interpretation of "good character" and "ethical nature." With such consensus, any disagreement must be on some lower level of thinking. Here was a philosophy of education which, the Herbartians believed, all mankind could accept.

2. The Instrument -- Teachers and Subject Matter: As with a trip from New York to San Francisco, the selection of routes plays

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1. McMurry, F., 1893: 58.2

a crucial part in whether the instrument of travel is to be a plane or a boat. Earlier in American pedagogy the monitorial method and especially the training program at Oswego had enforced the idea of the teacher as the major instrument for developing the child's character. The broader Herbartian conception F. McMurry described as follows:

> The ultimate object being determined, it remains to consider the means by which it may be realized. The Herbartians recognize two such means: the example and personal influence of the teacher as one, and instruction as the other. While they agree with Americans in considering the personal influence of the teacher a very potent factor in securing the final result, they distinguish themselves from us decidedly in the degree of importance they attribute to instruction in helping to accomplish the same end. They believe that the course of study itself, owing to the thoughts it may contain, can affect character, and they therefore place it in direct relation to the final object in view. They reason as follows: The chief element in good character is a good will. But the will is not something wholly independent of everything else; it can be influenced, it can be affected, and the instrument by which it can be affected is thought. The things which we decide to do are not simply willed outright, but are determined largely by the ruling thoughts that occupy our minds. Then, if our ruling thoughts are of the right character, so will our actions be; but if they are not, our conduct will be faulty. Certain thoughts, whether good or bad, are maxims or principles controlling our conduct. But maxims are the product of education: they have not always had control of us, nor did they secure their control instantaneously; they were slowly taught to us.[1]

With "will" as the chief element of good character, the instruments which develop and direct the will become basic to Herbartian pedagogy. Along with the advocates of object-method, the Herbartians felt that the teacher serves as a model to be observed and emulated as a standard of good moral behavior. But beyond this the

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[1] McMurry, F, 1893: 58.3

Herbartians believed in the power of ideas to influence behavior. Verbal learning played as big a role in Herbartianism as it did in monitorial method. The humam model who provided an example did not have quite the same importance as "the word," that is, ideas, which could illustrate moral problems on a scale no human could approximate. The word served as the catalyst which gave work both meaning and the power to improve the will.

Work, works, and workers influenced will. The child had to work hard on those subjects which the curriculum offered him. The books contained those works with the best ideas, and the teacher was the worker who exemplified good action. Work, works, and workers developed the habit of wanting to do what was right at the same time that they informed the will as to what it should want to do. With a reasoned psychology of a trainable will directly influenced by ideas, the Herbartians made teaching ultimately moral and morality an intellectual ultimate.

This attempt to reason in literary and philosophic terms about how the will, the mind, and mankind must be and operate constituted a large share of Herbartian explanation. It has been called rational psychology as well as rational philosophy. Through such rationalism, the Herbartians tried to prove that good character and moral citizens could be produced at the low cost of introducing good thoughts into the curriculum in the right way. The right way, it turned out, produced the desired results because it employed the correct psychological means.

3. The Psychological Means -- Interest: Rational psychology

or rational philosophy, depending on whether the nature of mind or the nature of man seemed to be the subject, often appealed to commonly accepted everyday experiences, as this section by McMurry demonstrates:

> Our daily experience tells us that it is the interesting thoughts that keep our minds active; therefore, it is through interest in thoughts that that very important object of the public school, lively mental activity, is attained. . . . To the Herbartian a lively, permanent interest is the highest immediate purpose of instruction. Mere knowledge is entirely subordinate to it. Interest is not excited simply in order that one may learn better, i.e., more knowledge may be acquired. This is the usual view, but it is not the Herbartian. According to the Herbartian view, facts are learned about a subject in order that, through them, a deep, permanent interest in that subject may be awakened. The more thoroughly and accurately the facts are taught, the stronger the interest, of course. This is a fundamental principle of that school of pedagogy.[1]

By referring to daily experience, McMurry sought to tap a commonly invoked principle of learning -- the need for interest. Having learned from the advocates of object-teaching, the Herbartians saw the need to elicit interest rather than compel it, or go on without it, as monitorial method had done.

In a world where good actions result from a trained will properly guided by exposure to good thoughts, interest in ideas would be a goose laying golden eggs of moral character and social welfare. By contrast, the facts and skills compelled by monitorial method were a kind of forced feeding used in cases of lock-jaw of the mind.

For all their concern with interest, however, the Herbartians could neither cater to it nor contact it at the expense of traditional factual learning. The accumulated body of academic facts remained cobble stones in the avenue of moral character. To insure their survival intact against the whims of changing interests, a convenient common-sense maxim sufficed: the more thoroughly and accurately the facts are taught, the stronger the interest they would command.

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[1] McMurry, F, 1893: 58.4

4. Curricular Means -- Literature and History: After such a simple maxim chaining interest to established learning, McMurry only had to ask the following questions:

> Where are thoroughly interesting thoughts of the right quality to be obtained? or, What principles should guide one in their selection?[1]

in order to give the specific means:

> Since literature and history are especially the studies that deal with the motives and actions of men, they are the ones from which the thoughts must be selected that can influence character. Hence, one or both of these branches should be taught throughout the course in the public school.[2]

Certainly, if good ideas were the bedrock of moral character, no one could ask for a better curriculum than one which arranged the best thoughts of the best minds of the best ages in their most meaningful sequence. Literature and history contained exactly those raw materials, the Herbartians reasoned. The problem was how to arrange these subjects in the most meaningful order for children. McMurry's solution introduced the theory of apperception in this way:

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[1] McMurry, F., 1893: 58.5

[2] McMurry, F., 1893: 58.5

> The chief problem really is, to decide what truths of the desired kind will prove most interesting to children at different ages. This is plainly a question of apperception; we are called upon to decide what is most closely related to the experiences and interests of the child during each year of school.[1]

5. Psychological Theory -- Apperception: With the principle of apperception the Herbartians plunged into rational psychology to emerge with the culture epoch theory of the nature of human nature. In rational psychology, through questions on the nature of mind, will, intellect, and thought the Herbartians introduced the standard issues of philosophy as they pertained to a view of human nature. From this interpretation of Locke's concept that all knowledge must come through the senses, the Herbartians could either speculate toward higher abstraction about how mankind developed (the culture epoch theory) or head in a more practical direction to deduce the best curriculum (concentrated core of history and literature) and method of instruction (the five steps). McMurry took the latter course in his 1894 account of the principle of apperception. Writing for The First Yearbook of the Herbart Society for the Scientific Study of Teaching, he said:

> The principle of apperception declares that what one can know and feel and will depends upon what he has already known and felt and willed, or that past experiences are the sole basis for intellectual, emotional, and ethical growth. Accordingly, excellence in teaching consists, first of all, in fitting newly offered ideas closely to these past experiences as their base or foundation. The first requisite to this end is that the subject matter of instruction be intimately related both

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[1] McMurry, F, 1893: 58.5

> to the kind of thinking and to the topics of thought which most naturally occupy the child's mind. Suitable matter will vary according to age and stage of development. There is probably a period in each person's life when any book, or indeed any thought, can be most highly appreciated. If we could only discover and take advantage of this more opportune moment for offering every bit of knowledge, what a wonderful economy of effort would result! Children's brains would then continually be stirred by what they received at school.[1]

In search of the topics and subject matter which most naturally occupied the child's mind, the Herbartians found it necessary to speculate on the nature of mind and man. The rational psychology of apperception, with its principles of how man comes to know, led to efforts to diagram the child's mind in order that the method and content of instruction could accord with the mental process. In pursuit of such an architectural plan of the mind at all ages and stages rational psychology reached out beyond a concept of the individual to speculate about the development of the human race. A kind of rational anthropology, the culture epoch theory brought the full range of philosophic speculation into talk about education.

6. Philosophical Theory -- Culture Epoch: Developing a kind of rational anthropology, the Herbartians enjoyed a remarkable fluidity of thought. Thus from the furthest speculative generalization on the nature of the race McMurry quickly traced a line of practical deduction to Robinson Crusoe and its place in the first grade. In his 1893 article he stated his deductions this way:

> The Herbartians, as well as Herbert Spencer, have reached this conviction; and this principle -- called by them the

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[1] McMurry, F., 1894: 59.1

> culturstufenidee -- is their guide in determining a course of literature and history. They see clearly a parallelism between the development of the race and that of the child. Just as one entertains itself largely at first with pictures of the imagination, then loves especially physical feats of bravery, and finally becomes reflective, so does the other. Since the two are so much alike, what interests one most at a certain age is of like interest to the other at a corresponding age. But we know what has interested races during their different periods of growth; we have their thoughts and deeds preserved to us in the form of myths and fairy-tales, legends, epics, poems, and actual history. These experiences, then, are what will interest the child most if given at the proper time. In imagination he can and does live through them, just as the races have lived through them in reality. The Herbartians have, therefore, chosen fairy-tales as a regular study of the first school year; "Robinson Crusoe" as one for the second; German legends, "The Song of the Nibelungen," and other literature and history, for the grades following. Thus, classical literature or history, or both, are taught to the children during each year of school; through them good motives are implanted in the minds of the children, and thus their wills are affected.[1]

As if all the preceding pedagogic and philosophic theory had provided momentum for soaring, McMurry drew them together as a catapult for speculating about the race. Then, like a hammer poised to strike, he picked the particular phase of practice he wanted to hit, and with hawklike precision he could see "Robinson Crusoe" in the first grade.

Herbartian rational psychology (speculative philosophy) provided a deduction for practice that made it seem as if they might not need the theory to discover what should be done in the classroom but only to justify what they wanted to do. Yet, the appearance it gave was one of marvelous continuity between theory and practice.

What started as a speculative analogy between the development

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1. McMurry, F., 1893: 58.6

of the race and that of the child finished as something quite different. Lacking modern anthropological data, the Herbartians did not doubt that the race passed through those stages claimed for it. Without experimental psychology they believed that the child approximated those stages. Without modern philosophy they assumed that such analogies as they accepted had the same scientific standing as observed facts and justified imposition of those stages onto the curriculum. Finally, after the manner of literary criticism, they found that the particular works selected, and not others, exemplified certain of those stages. The analogy had been taken as a literal description with prescriptive powers. From race to child to curriculum to Robinson Crusoe marked the course of this large and literary idea which had so much scholarly material behind it and which offered so much guidance for practice.

This acceptance of analogy as better than fact appeared in C. C. Van Liew's defense of the cultural epoch theory. Writing in The First Yearbook of 1894, Van Liew, translator of much Herbartian doctrine from German to English, tried to save the theory from criticism by asserting that the child passed through epoch-stages even if they could not be identified. After stating that the parallel between child and race occurs in general psychical functions and traits, he wrote:

> The "exaggerated individualism" of the cowboy, as it appears to the eye of social order, is after all, the product of one epoch of psychical development through which every healthy boy passes, though generally without becoming a cowboy; it may be that the passage is made in his literature, in his play, or in his work; it may express itself in a variety of products totally unlike that of the cowboy, and the "exaggerated individualism" may be made the source of a healthy

> development in the boy just as has been the case in the history of the race. For "exaggerated individualism," which was so characteristic of the early Teutonic race, was the source of modern ideals of freedom and of American institutions. So, too, may it be converted into power in the individual, if seized upon and utilized.
>
> We must insist, then, that we are dealing in this comparison not with the products of development but with the development of mental functions that have brought about the products.[1]

With self-protecting reasons Van Liew sought to answer criticisms of the culture epoch theory by asserting that things really could not be any other way. The Herbartians believed that they were offering the most reasonable explanation of what everyone knew to be true. Every child, for example, had to have some moments of exaggerated individualism even if they came out in forms usually associated with opposite kinds of behavior. Going further, Herbartians reasoned that exaggerated individualism could be identified in any race and any child at some moment in their respective histories.

The culture epoch theory could claim common sense and even a kind of observational validation. Similarly, connections between the early Teutonic races and colonial America could be drawn from writings and expanded into a literary hypothesis. Such stages as exaggerated individualism became necessary characteristics of children at certain ages. If the curriculum were to capitalize on the interest features inherent in child development, it had to devote a certain part of the curriculum to work about cowboys. The efficient curriculum organized its sequence to correspond with the

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1. Van Liew, 1894: 91.

unfolding of stages in the child.

7. Pedagogical Theory -- Concentration: The culture epoch theory facilitated deduction from the nature of the race down to Robinson Crusoe and cowboys. The theory of concentration as presented by McMurry enabled reasoning to go back the other way. In his Saratoga address, Frank McMurry took the problem of curriculum and, with common-sense reasoning, reached up to encircle the over-all aim of education: moral character. To do this he built the following case:

> Unless the teacher takes special precautions to avoid it, there is the greatest danger that their [the pupils] knowledge will be a chaotic mass of information. The danger is quite apparent when we remember that within a single day the child studies one-half dozen different branches. . . . the Herbartians make one study a center about which all others as far as possible are grouped. . . . The Herbartians distinguish themselves by acknowledging this fact and making special arrangements to relate closely in a single recitation should form a closely connected series, and the parts of a single study an organized whole, so the different studies taught at any one time should make up a unit, an organized body of knowledge. It is only in this manner that the mass of facts acquired can be well mastered by the pupil, and stand at his disposal for use at any time; it is only by having all his knowledge closely related that he can have command of himself, maintain his self-reliance, and present a strong character. With these thoughts in mind, the Herbartians make one study a center about which all others as far as possible are grouped.[1]

Once begun, this process of reasoning about the nature of man could be carried on indefinitely. As the core of subjects provided organization and order in the child's life, so the order of experience throughout many lives took on meaning in social terms. In his 1894 article on "Concentration" McMurry spun out this larger web of a priori speculation. With a final appeal to authority he reasoned:

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[1] McMurry, F., 1893: 58.7

> The continual change of environment tends to prevent the establishment of a few central spheres of thought. Before a principle can become a conviction and gather about it enough experiences to support it firmly, the attention is called away to other things, often to principles that apparently or really contradict the former; hence, it is with difficulty that he can get and keep his bearings and grow in firmness. Many an adult who has traveled abroad recalls what a struggle he passed through in order to retain his footing on religious, moral, and social questions. Hence the child, moving from place to place, is inclined to have few firmly fixed notions, just as he has no fixed abode. Ackermann of Eisenach declares that there is a difference between city and country children in this connection; on grounds already stated, he says that children reared in the country develop stronger characters than city children; the latter dwell in too large and changeable a world to build up an undivided and harmonious or strong personality.[1] [Underlining added]

In this manner Herbartians went from matters of practice to generalizations about the culture epoch theory and back again. They admitted no separation of theory and practice within the system. The most abstract thought had their practical educational consequences as a result of deduction. So long as no fault could be found with the reasoning, what more needed to be done? This was rational science.

8. Pedagogical Method -- The Five Steps: With the curricular content specified by the culture epoch and with the program organized around a concentrated core, the last step in this complete pedagogical theory called for a method for presenting Robinson Crusoe to the first grade class. In the final part of his first article Frank McMurry focused the whole range of Herbartian theory on this practical problem. His reasoning revolved around the

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1. McMurry, F., 1894: 59.2

famous Herbartian five-step method as developed below:

> As already seen, apperception plays a very important part in the choice of a course of study; it is likewise important in method. To bring it about, it is first necessary to bring vividly into consciousness all the experiences the child has had which pertain to the subject in hand. After they have been thus reproduced, the new ideas should be presented, to be explained by the light of the old and thoroughly apperceived ones. There are thus plainly two steps involved in careful apperception. The old ideas are recalled to consciousness, and then the new related ones presented. These two steps must always be taken in acquiring individual notions. The answer to the second question is that we pass from percepts to concepts by a careful comparison of the percepts and abstraction of the essential characteristics. By such a comparison, the non-essentials are lost sight of. The mind discovers what is commonly true, and dwells upon that alone; i.e., it grasps the generalization or the general truth. Here, also, there are two important steps: first, the act of comparison; and second, the separation of the essential from the non-essential, the mind dwelling upon and formulating the general notion. The comprehension of this notion is to be followed by its application. No matter what the study be, after a rule of law has been reached, the instructor must see that it is applied. This is the fifth necessary step in learning. These steps are all called necessary, because all minds in acquiring knowledge must take them. We all learn in the same general way. So the Herbartians have named these the five formal steps.[1]

Instruction, then, should be conducted in the following steps: (1) recollection, (2) presentation, (3) comparison and separation, (4) generalization, and (5) application. In the Herbartian plan those five steps turned out to be more than a formal division of practices that other workers had found successful over the years. By saying that the steps were all "necessary, because all minds in acquiring knowledge must take them," McMurry revealed the Herbartian view of them as the "actual" steps of mind. Again what began as the formulation of successful practice ended up as pedagogical science derived from a science of mind and man. Herbartian rational psychology and philosophy fought toward the fixed notion that mind must be this way, and so must pedagogy as a consequence. Once properly fixed in moral purpose, five-step methodology, and theory of apperception the science was considered a reality. McMurry formulated that claim in the following paragraph from his address published in 1893:

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[1] McMurry, F., 1893: 58.8

> This doctrine, to be complete, must fix a definite purpose for the teacher, and show clearly by what means and methods that purpose can be accomplished. If it does that, it might then be called a science, or at least a well-organized system of thought.
>
> There are few men who have given to the world such a doctrine. Pestalozzi has not done it, nor Rousseau, nor Joseph Payne, nor Quick, nor Fitch; Comenius and Herbert Spencer have approached the mere outlines of one; the Herbartians alone have developed such a system in detail, and its essential points are accepted by a considerable body of teachers in Germany.[1]

This was not only a science of scholarship. Regardless of all its theoretical concern, the Herbartian rational system claimed to be a science of classroom practice. Herbartian scholarship pointed toward the possibility of a study of education separate from the needs of immediate practice, but the whole structure of ideas was organized to yield rules which guided practice directly in each particular situation.

A Science of Education: Affirmed to be rational science, a well-organized system of thought, a theory or philosophy of education, Herbartianism claimed a thoroughness of coverage, an extent of speculation, and a degree of order not previously found in thinking about American education. The speculation, the order of reasoning, and the directives for the conduct of practice were explicitly stated in the doctrine rather than implied in a model practitioner. Theory was not to be fashioned out of the demands of practice or the order of show; nothing less than speculative talk derived from scholarly authority would do. By way of establishing the pedigree of such scholarly authority, Charles De Garmo, President of Swarthmore College, offered the following avowal:

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[1] McMurry, F., 1893: 58.1

> Herbart stands in intimate relation to the great leaders of pedagogical thought, both ancient and modern. With Socrates he accepts the building of moral character as the great end of education; with Plato he holds that intellectual culture is a necessary means to this end; and with Aristotle . . . he regards education as a supplement to the experience derived from nature and the mingling with men in society. His relations to the preceding philosophers are quite as complicated in the field of metaphysics. An extender of one side of Kantianism, he returns to the Eleatics for a correct notion of being, to the Atomists for the notion of the multiplicity of being, to Wolff for "clear notions and well-grounded 'proofs,'" and to Kant for a "science out of notions."[1]

The Herbartians dug deeply into the scholar's bag of ideas and came up with a varied assortment which they arranged in an order that to them seemed systematic. Along with that collection of scholarly thought many ideas from ordinary living and practical pedagogy had to be fitted to assure that both rational psychology and moral conceptions would be integrated into the system. Writing about this mixture of the scholarly and the practical, MacVannel explained the blending as follows:

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1. De Garmo, 1891: 18.

> Education as a science is based, according to Herbart, on ethics and psychology. The former points out the goal of education; it sets the problem; the latter the way, the means, and the obstacles to the solution of the problem. This relationship involves the dependence of education on experience, while psychology has its starting-point, not in metaphysics alone, but in experience correctly interpreted by metaphysics.[1]

Based on experience and the correct metaphysical interpretation of experience, Herbartian rational science pursued deductions down the educational branch of a philosophy of life. Dealing with the goals of man, with the nature of society and its influence on those goals, with human nature, and with metaphysical matters they entertained the broadest possible range of issues in the name of educational science. Answers to questions about all of life admitted to talk about education the entire body of speculative philosophy and literature as well as the cracker-barrel philosophy of Everyman. Thus scholarship and casual conversation competed on equal terms in a conceptual democracy. Out of the intellectual jungle created by the indiscriminate mixture of the full range of human thought about the entire scope of life, the Herbartians picked a path to practice. Without a map of the jungle of ideas they assumed that because they moved step by step, they must be pursuing a logical course which was the shortest distance from beginning to end.

Eventually they arrived at the practical conclusion of how to teach a particular book to a particular group of children. Having arrived at rules for the conduct of practice with reasons as to why it had to be a certain book, taught in a prescribed manner, at a particular time in the child's life, the Herbartians believed that they had made a logical passage from theory to practice.

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[1] MacVannel, 1906: 55.1

Without a map the Herbartians could not judge, however, if their route had been circuitous or not. Theirs was a logic-centered theory of education. That the logic came more from the layman as well as from the scholar did not matter. In contrast with the feeling-centered thought developed around the object-method at Oswego, the Herbartians had an explicitly stated educational theory. Scholarly authority, step by step reasoning, speculation about life, and practical rules went together to form an egg-head discipline of education. In place of a standard model who acted out the feelings of his personal philosophy in practice, the Herbartian was an outspoken dialectician. Show had been subordinated to talk.

The Herbartians lifted talk about education out of the arena of narrowly practical explanation and set it free to roam the entire intellectual world in search of a view of the whole of life. Pedagogical talk became conversational philosophy punctuated with scholarship and pedantry. The furthest theoretical speculation about the nature of life played a part in directing the minute particulars of practice.

Using ordinary conversation about life as the lowest common denominator between scholarly speculation and classroom practice, the Herbartians unified talk about education into a logic-centered science. The long line of logical deduction by which they sought to link speculation with practice helped accent the gap between the scholar's and the practitioner's approach to talking about education. Instead of building the reasoning which joined the one to the other, advocates of child-study began to pay attention to the possibilities of developing a scholar's discipline and a practitioner's discipline with the hope of linking the two in the future.

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CHAPTER FOUR

OBSERVATION-CENTERED REASONING: CHILD-STUDY

> If Sarsi wishes me to believe, on the word of Suidas, that the Babylonians cooked eggs by whirling them swiftly in a sling, I will believe it; but I shall say that the cause of such an effect is very remote from that to which they attribute it, and to discover the true cause I shall argue as follows: If an effect, which has succeeded with others at another time, does not take place with us, it necessarily follows that in our experiment there is something lacking which was the cause of the success of the former attempt; and, if we lack but one thing, that one thing is alone the true cause; now, we have no lack of eggs, nor of slings, nor of stout fellows to whirl them, and yet they will not cook, and indeed, if they be hot they will cool the more quickly: and, since nothing is wanting to us save to be Babylonians, it follows that the fact of being Babylonians and not the attrition of the air is the cause of the eggs becoming hard-boiled, which is what I wish to prove.
>
> In its business of discovering proximate causes, Galileo held, science began with observation and observation had the last word. . . .[1]

Galileo wrote his incisive critique of rationalism three hundred years before the Herbartians employed that same logic-centered method of reasoning to support what they wanted to "prove" about the conduct of educational practice. The culture epoch theory proved that the curriculum should be organized around a literature and history subject-matter core only if all the Herbartian assumptions were accepted and all the steps of reasoning were credited as valid. The chain between the speculative theory of apperception and the necessity for following the five steps of instruction in the conduct of classroom practice consisted of similar links. In kind, such proofs did not differ from the parody spun out by Galileo.

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[1] Crombie, 1957: 15.

The Herbartian line of reasoning came at the end of a long rationalist tradition. That tradition credited an apt analogy with more power to reveal truth about mankind than careful observation could hope to command. Truth beyond observation was uncovered by insight and supported by the logic of common-sense reasoning. Grouping a quasi-scholarly set of analogies around insightful assumptions by means of self-evident reasoning, the Herbartians built a philosophy of life which they called a science of education.

Though three hundred years old, the criticisms of Galileo and Bacon against rationalism were only beginning to be felt in American educational thought at the close of the nineteenth century. In response to "the great Baconian change" G. Stanley Hall launched a program of child observation, description, and reporting in pursuit of empirical science only to embrace Herbartian rationalism in the form of the culture epoch theory. E. H. Russell set up a strict program for evaluating the objectivity of child-study descriptions and then set out to cultivate enthusiasm for children through the same observations that were to be objectively reported. The difference between the grand panoramic unity provided by philosophic speculation and the limited scope of empirical generalizations had not been fully accepted. The scholarly enterprise of building an intellectual discipline of education had not yet been liberated from the task of training practitioners to teach in the public schools.

The careful description of early child-study programs and the broad speculations of Herbartian rationalism seemed mutually supportive throughout the nineteenth century. Coupled as friends, child-study and Herbartianism each picked up traits from the other. The mixture of descriptive and speculative thought which emerged from that interchange produced many and varied claims for an educational science.

The Systematic Study of Children

In addition to the mixture of Herbartian and child-study viewpoints, early steps toward a careful description of human behavior were taking place in psychological laboratories during the last quarter of the nineteenth century. Within ten years the scientific study of consciousness had a formal beginning in the following cities: Wundt opened his Leipsig laboratory in 1879. Galton began his Anthropocentric Laboratory in London in 1882, and at the Sorbonne, Paris, the Bedunis-Binet laboratory was organized in 1889. Further, with Ebbinghaus, Kraepelin, Cattall, Jastrow, and Munsterberg doing work on memory, motor skills, and perception during the last decade of the century, education looked forward to progress through the careful description of human behavior. But even before the scientific laboratories and the careful measurement of performance, attention had been given to the careful recording of facts about children. Writing of this early work, C. L. Waddle, formerly head of the department of psychology and education at Los Angeles State Normal School, offered the following chronology:

> The first consecutive record of observed facts of child nature of which we have any information was Tiedemann's Observations on the Development of the Minds of Children, published in 1787, unless we except the simple notes made by Pestalozzi concerning his son in the year 1775. These were followed by somewhat similar studies by Lobisch (1851), Kussmaul (1856), and Sigusmund (1859). With the publication of Prayer's Mind of the Child in 1881, often spoken of "as the model record," a new standard was set for studies of this type and a new impetus given to the interest of people generally in the psychology and physiology of infancy.[1]

But infancy is not restricted to human offsprings, though educators understandably hoped to concentrate attention on that species. Many serious students of the psychology or physiology of infancy found the study of other animal offsprings more rewarding since the depth of exploration did not always have to stay within the legal and moral bounds of welfare. In explaining the split that resulted from this difference, Edwin A. Kirkpatrick, Head of the Department of Psychology and Child Study at the State Normal School, Fitchburg, Massachusetts made the following contribution to Paul Monroe's Cyclopedia of Education:

> As knowledge of mental development has increased, child-study has become differentiated into two branches of study, Child Study and Genetic Psychology. The latter represents the broader and more scientific phase of the subject, and includes a consideration of the development of mind in animals and in the human race, while the former, though founded on the same principles as the latter, is limited to the consideration of the development of human beings from infancy to maturity.[2]

In describing the split between students of all infant behavior and those who wanted to concentrate on human infants, Kirkpatrick noted a lessening of scientific scholarship among the latter. Usually increased specialization yields increased scholarly concentration. In the case of educators interested in the study of children, however, the need for practical guidance in the conduct of classroom teaching forced them to make generalizations which called for speculation beyond scholarly limits. Looking to need primarily, such child-study advocates had to make available information do even when recognized as inadequate. The genetic psychologist, by contrast, dissociated himself from the demands for usable generalizations so that he could pay close attention to the sources of his information and the extent of generalization the data would warrant.

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[1] Waddle (Wadell, C. W.), 1918: 92.2

[2] Kirkpatrick, 1911: 50.

Concerned with the maximum possible reliability of his generalizations, the genetic psychologist made progress in observation a prerequisite to an expansion of the range of prediction. As the demand for immediate utility might dictate educators, by contrast, used available data as a springboard for either philosophic speculation or practical explanation. With different ends in mind, the psychologist viewed the educator as unscholarly, unscientific; and the educator saw the scientist as impractical, insular. Prompted to defend themselves against appearing to be unscholarly, educators brought the technical vocabularies of other disciplines into their practice-centered talk. The wholesale incorporation of technical terms without the content and limitations imposed by the parent discipline, however, cluttered talk about education by dressing the skeleton of a simple thought in unnecessarily elaborate verbiage. Thus talk about education became more complicated while thought remained unimproved. In that increased complexity many believed they could see signs of a science of education capable of both scholarly exactness and broad utility for the training of teachers.

The grounds for uniting the research function with the training function of a discipline of education had been well prepared by both the Herbartian view of a rational science and the object-method concept of a felt discipline embodied in a model practitioner. The early developers of child-study had the same intention of keeping observation and description joined with the process of training teachers for practice as model practitioners as Gordy's account of the Worcester Normal School training process indicated. Writing in 1891, Gordy praised that program in the following description of its activities:

> Pupils are called upon to employ introspection for the purpose of getting a clear idea of the particular mental process or activity under consideration, that they may know it as it is in their own experience, or as it has been, so far as they can recall it by memory. But for a general knowledge of mind they are advised, on the one hand, to study the books that contain the observations and the views of scientific psychologists: on the other hand, to observe the phenomena of mind as manifest in human beings about them. And they are directed particularly to the observing of the minds of children, because this field seems to lie best within the range of their ability, to be of great interest to them, and to have direct practical bearing on their occupation as teachers. Examples of the mental processes, their associations of ideas, their imagination, their reasoning, are asked for by the instructor, and are given in abundance by pupils, out of their own observations and from the supply that is coming in continually, like a perennial spring of water, in the "records" of observations by the school at large.[1]

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[1] Gordy, 1891: 33.8

Training Teachers Through Child-Study

G. Stanley Hall, President of Clark University and an outstanding psychologist, has long been considered the "father" of American child-study; and he might also be called the uncle of its educational application. He earned this title in at least three ways: through research, as a consultant to educators, and as a popularizer of ideas.

Begun in 1880, Hall's study, The Contents of Children's Minds on Entering School, pointed to many deficiencies in both the preparation of children for school and the assumptions made about their capacities once schooling began. This work pioneered the descriptive approach to educational problems so much emphasized by Rice in his 1895 spelling studies. Acting as chief inspiration and active consultant to E. H. Russell, principal of the Worcester Normal School in Massachusetts in 1885, Hall collaborated in the first systematic effort to train prospective teachers by child-study methods. Finally, at the International Congress of Education of the 1893 World's Columbian Exposition in Chicago Hall delivered an address which opened a period of widespread interest in child-study. Therein he pointed to the four major kinds of child-study then being conducted: information studies, physical measurement programs, case studies of the handicapped, and measurement of general health. He explained the four areas in this way:

> The history of the scientific study of children began in this country in 1879, when four kindergartens in Boston, acting under Mrs. Quincy Shaw's lead, took three or four children at a time aside and endeavored to find the contents of their mind. The results of this work were published in the Princeton Review in 1880. The work showed great gaps, so great

> that it was dubbed "a study of ignorance of children." It came out that the primers were made for country children, while the great bulk of children are city born. This line of work has been carried on into the college ranks.
>
> Another line of study is the measurement of children. More children have been measured in the United States than elsewhere, but the results have not been worked over so well here as in Europe. It has been found that children grow tall in the spring, and stocky in fall; further, that different parts of the body have different periods of best growth. . . . A third line of study is exceptional and defective children. "Study the child" is becoming "Study this child." The method-enthusiast prides himself on results gained from stupid children; but we must let the bright child set the pace. . . . A fourth line of study relates to health. The modern school is a tremendous engine to drive the child organism. Five hours a day, five days in the week, and nine months of the year -- history shows no other such test of child nature.[1]

Yet Hall's speech directed attention more to child-study as a scientific movement, as a branch of psychology, rather than to its educational counterpart going on in the normal schools.

The Worcester Training Program: The first of the four kinds of child-study mentioned by Hall, the informational program, became a part of teacher training in the United States in 1885. With the assistance of Hall, Russell introduced the descriptive reporting of child-study observations into the normal school training program at Worcester, Massachusetts. The students at Worcester did not study children in the intense and probing manner used by a Mrs. Shaw. They took a more relaxed approach to observation as Russell's account revealed. Speaking to the child-study section of an 1889 meeting of the National Association of Education, he said:

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1. Hall, 1893: 35.

The method is very simple, being substantially as follows: Soon after entering the school, students are made acquainted with this feature of our work, and very little effort is required to give them a new interest in children and their ways, partly, no doubt, from the novelty of the thing, but more because the new-comers quickly perceive in the school the presence of such an interest. They very soon feel the growing enthusiasm which objective study is so apt to enkindle in youthful minds, and some of them show almost immediately the right apprehension of what is wanted, and the sure tact that will lead to success. Others, of course, lack this, and never make first-rate observers.

The first real task is to correct the prevailing notion, that what is desired is the striking or remarkable sayings and doings of precocious children. It is difficult for beginners to understand that only what is common or habitual in ordinary childnen is of value. They can hardly believe at first that newspaper paragraphs about children are generally false, and that, even if true, they would be of little use. A second point for beginners is, to refrain from all reflections and comments of their own; to report precisely what they observe -- no more and no less -- with the accuracy of a photograph. A third precaution has to be much insisted on -- that of never allowing the child under observation to know or suspect that he is being observed. Another important thing is, to record the observation at the earliest convenient moment.

There is a question how far the beginner should be directed to look for certain specific things in children. I think our experience points towards a general readiness and openess of mind as the most favorable condition. Children are pretty wild game, and must be watched from cover, and approached indirectly. Moreover, their activities go in waves, and with little regularity, so that an observer will generally do best in a waiting and expectant attitude -- what sportsmen call "a still hunt." "The best time to catch fish is when they bite" is a homely proverb that applies here. This will answer the question is natural, but it assumes that student might almost hold his manual of psychology in one hand and a child in the other, and verify the teaching of the book, item by item. It needs but little experience to show that such a method would work about as well with a child as it would with a beaver or a loon. It is quite possible, however, that a more determinate course than we have pursued would be better.

The pupils are told in a general way in what realms or fields most of their observations will lie: as, for example, the knowledge and ignorance displayed by children, their language and gestures, curiosity, shyness, vanity, lying, etc.; their likes and dislikes, attachments, aversions, fancies, caprices;

> their favorite stories, songs, and myths, whatever makes them laugh or cry, ideas of the sky, of God, of death, etc.; their abilities, as shown in drawing, building, planning, and the like; and above all, their plays and games, social and solitary. No limit is put to the scope of these observations, and no question is raised as to their possible utility.[1]

Russell and his colleagues cautioned the students against reporting more than they saw and seeing more than was there. In short, they tried to minimize interpretations and maximize description. The observer remained a part of the background to keep the classroom situation as natural as possible. In addition, by insisting on prompt, differentiated reporting the program sought to reduce memory loss, temporal distortion, and the confusion of different kinds of observation. In that same address to the National Education Association Russell described the following technique for differentiating one kind of report from another:

> The next matter is blanks for making the records. These are ordinary half-sheets of note paper, of several different tints, with printed headings covering the following items: The date; the observer's name, age, and post-office address; the name (or initials) of the child observed, its sex, nationality, and age in years and months; and the length of time between making the observation and recording it. White paper is used for such observations as student make themselves; pink for well-attested ones reported by others, yellow for reminiscences of their own childhood; green for mention of whatever they read on the subject; and chocolate for observations that extended continuously over a specified period of time. These tints help in classifying the reports, and they also require the student to reflect upon the precise character of the record he is about to make. The number of records expected from each pupil is purposely left indefinite; it has been found to average not far from two a week for the whole course of two years and a half.[2]

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1. Russell, 1889: 82.3

2. Russell, 1889: 82.4

With a wide range of careful observation and precision in reporting, the Worcester normal school program applied laboratory-type control to the child-study side of teacher training. But that laboratory control designed to improve objectivity was matched against a subjective reaction that worked against it. Objective observation, the child-study advocates believed, kindled enthusiasm for youngsters. Such enthusiasm had immediate practical utility for students training to be teachers. If observation developed affection, sympathetic understanding, and an acceptance of children, the practical utility was in the process of looking and writing up what had been seen. They could afford to ignore the utility of the finished report since the practical result intended was attitudinal rather than informational. Observation affected attitude directly, and a change in attitude could be expected to influence information. As the observer's attitude changed to one of greater sympathy toward children and their activities, he could become a less objective observer and reporter though potentially a better teacher.

Child-study related objective observation to practice through the feelings which the teacher trainee developed in the process of looking at youngsters and in writing reports. In this approach to a discipline of education the "show" of object-method which encouraged demonstration of technique and exercise of skill had been replaced by looking and writing. In each instance, however, the practical goal of creating the proper feeling or attitude in a prospective practitioner took precedence over the explicit formulation of a theory of education. Talk and look remained primarily practical regardless of the scholarly theory or the careful description that might be incorporated.

The Worcester Reports: Collecting reports at the rate of two a week per student, the Worcester program collected over twenty thousand observations in its first ten years. Long, short, simple, and complex reports had been collected without attention to utility or design. From that pile, Miss Ellen M. Haskell, editor for the Graduate Association of the State Normal School at Worcester, Massachusetts, selected 1208 for publication in her book, Child Observations, published in 1896. Some selections covered more than a page, others hardly made a sentence. In each, a certain amount of orderliness and restraint could be found, as these two examples show:

> 1. Gertrude. Age 1 year. Gertrude's sister hurt her hand, and ran to her mother to have it kissed. Gertrude saw her, and holding her hand with the other as if it were hurt, extended it to her mother to be kissed.[1]
>
> 1206. Harry. Age, 15 years. Harry heard a ventriloquist. The next day I saw him holding a hand-glass up to his face, and trying to talk as the ventriloquist did, without moving his lips.[2]

Writing the introduction to this book by Haskell, Russell stated that the major aim of Worcester Child-Study was practical. In 1896 he expressed that thought in the following way:

> Taken as a whole, these observations cover a very wide range, not having been restricted or directed to particular traits or problems of childhood; the aim being, as just stated, not a scientific study of children, in the interest of psychology,

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1. Haskell, 1896: 39.2

2. Haskell, 1896: 39.3

> but an attempt to bring out future teachers into closer and more sympathetic relations with them as individuals. In this respect the undertaking has proved highly successful, and it pretends at nothing more.[1]

Yet such an elaborate system for recording different kinds of observations and the care with which the accumulating body of data was preserved suggest that Russell spoke more accurately about the purpose of the program when he summed it up in the following manner for his 1889 address to the National Education Association:

> First, and chiefly, to give such exercise in the observation of children as is calculated to bring the observer into close and sympathetic relations with them, to awaken and cultivate in those who are to become teachers a reverent interest in all the realities and mysteries of childhood. Secondly, and incidentally, to accumulate a body of well-ascertained facts that may serve in future to enlarge and rectify our knowledge of children, and so help to lay the foundation of a more adequate and pedagogically useful psychology of childhood.[2]

In addition to accomplishing the primary task of training teachers, Russell looked forward to an intellectual discipline of child-study based on the data collected through years of careful reporting. The Worcester insistence on careful and objective observation could be explained by the belief that accurate looking was the best way to insure maximum growth in sympathy for children as well as an authentic perception of child behavior. But the care with which the reports were differentiated and the records preserved suggests that the hope for a scientific psychology of childhood which would be as useful to pedagogy as physics had been to engineering

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1. Haskell, 1896: 39.1

2. Russell, 1889: 82.2

commanded considerable attention.

It was probably just such a hope that led Russell to turn tons of those reports over to G. Stanley Hall, who assigned graduate students to analyze them systematically. Russell expressed his hope that such objective observation and reporting would correct certain deficiencies in psychological science. Calling up Sully, Brain, Lewes, Ribot, Preyer, and Hall as supporters of his point of view, Russell expressed that hope this way:

> Their views point plainly to two things: first, the inadequacy of the method of introspection in psychologic study; and secondly, the necessity of observation and experiment, not as superseding, but as supplementing introspection, and giving to the study of mind objective reality and completeness.[1]

In part, Russell distinguished between the practical function and the research functions of accurate observation and recording. Observation could be practical on the subjective level, and recording could contribute to an improved discipline on the level of objective information. The subjective response of increased sympathy for childhood was excellent for teacher-training purposes. The objective record of careful observation contained in the accumulated body of reports would be data for an improved science of child-study. Sentiment could be immediately practical in a way that isolated facts could not. On the other hand isolated facts collected over a long period of time could have scientific value that no amount of sentiment could approach. Yet Russell suffused his whole view of both the practical and the scientific sides of child-study with sentiment, as his closing statement in the introduction to Haskell's book indicated:

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[1] Russell, 1889: 82.1

> Finally, it should ever be born in mind that the study of children has wider and richer interest than those of psychology or pedagogy or any mere science. . . . I believe it holds the largest possibilities of delight, of increase of knowledge, and of practical utility. Yet its highest ideal, to my thinking, is simply enjoyment of childhood through sympathy and insight, without any ulterior purpose whatever.[1]

Attracted by the promise of useful sentiment, teacher training had accepted child-study as an instrument for developing a sympathetic attitude toward children in potential practitioners. Exploring the possibility of improved scientific understanding, serious scholars of child-study began the measurement and fact-gathering tasks with which to found a discipline of infant behavior. Workers at Worcester believed that they had combined the practical and the scholarly aspects of child-study into a program of effective practitioner preparation while generating objective reports having scientific value. Genetic psychology, on the other hand, sought to get rid of the reports of amateur observers who had a sentimental interest in child observation. However, Russell's appeal for the "simple enjoyment of childhood through sympathy and insight" invited just such unscientific sentiment and unscholarly talk about children.

Students of careful inquiry into child behavior could neither stem nor assimilate the expressions of sentiment about childhood in and out of education. The appreciation of childhood for its own sake was an emotional not an intellectual pleasure. As more teachers and laymen began to write and talk about child-study from feeling and subjective reflection on their own past, what scholarly and scientific potential early educational child-study might have contained quickly died. Practical talk about childhood became emotional talk, and child-study forfeited its chance to develop education as an intellectual discipline.

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[1] Russell in Haskell, 1896: 39.4

Expanded Horizons for Child-Study

G. Stanley Hall acted as a triple-threat promoter of the child-study movement in the United States: as a scholar he contributed major descriptive papers; as consultant to the Worcester Normal School program he guided practical training; and as an important speaker at the International Congress of Education in the 1893 Columbian Exposition he stimulated national and international interest in child-study. Of this third aspect of Hall's activity, Waddle had the following to say twenty-five years after his 1893 speech:

> Not until 1893, at the time of the International Congress of Education, held during the progress of the World's Columbian Exposition at Chicago, was any general enthusiasm aroused for "child-study." At that time Hall addressed a small company of people on the subject, and organized The National Association for the Study of Children. A "Department of Child Study" of the National Education Association was organized the same year. These were followed by the organization of numerous state societies, and many local associations of groups of teachers and parents.[1]

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[1] Waddle, 1918: 92.3

The first of those state societies held a meeting the very next year, 1894. The state child-study society in Illinois had been begun with the organizational help of C. C. Van Liew and Charles A. McMurry. At the same time that they assisted in the development of the first state child-study society, they were busily engaged in launching the National Herbart Society which was formally established in 1895. Through both Herbartian and state child-study societies teachers had an opportunity to participate in specialized organizations having a greater unity of viewpoint than could be achieved in the all-inclusive National Education Association.

That the technical aspects of child-study and Herbartianism did not fully agree mattered far less than the fact that both strove toward a comprehensive overview of all facets of education nowhere else available. Child-study joined all varieties of practice and of child behavior in a deeply felt sympathy for childhood as a period of greatest need and greatest potential. Herbartianism linked moral purpose, metaphysical assumptions, and speculations about mankind, to the details of practice through a fine-spun net of talk and called the whole pattern a rational science of education. In child-study seeing was feeling which was believing. For the Herbartians "saying" led to systematic order which was science. By many "feeling" was thought to be the subjective side of "science," and child-study seemed to supplement Herbartian doctrine. Together, the two promised a deeper and broader understanding of education than had been previously available throughout the profession.

In 1895 the yearbooks of the child-study societies were joined by the magazine Child-Study Monthly which sought to interpret the scholar to the teacher and to the interested layman. The support and continuation of such a monthly commercial publication depended at least as much on the interest it could stimulate as the scholarly content it presented. Tapping the opinions of scholars and professional leaders, G. W. S. Luckey, originator of the school of education at the University of Nebraska, published an article of interest to educators and laymen in the eighth issue of the first volume of the magazine. Therein Luckey reported that the following three questions were asked of those most prominent in education and in child-study:

> 1st. In your experience what seems to be the chief value of Child-study?
>
> 2nd. What do you consider the most useful lines of advance?
>
> 3rd. What do you think to be the principal value of Child-study to the teacher?[1]

Among the responses reproduced by Luckey, the following three came from the most prominent people:

> From Dr. Nicholas Murray Butler, Professor of Philosophy, Columbia College, New York City:
>
> First. The chief value of child-study seems to lie in two directions: (1) It arouses the teacher to examine and study the mental states of the children before her. This may be called its subjective value. (2) It will in time furnish us with a series of conclusions that will be of practical value in guiding teachers in arrangement of courses of study, methods of instruction, hygienic and sanitary surroundings of school life, etc. This may be called its objective value. . . .

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[1] Luckey, 1896: 54.1

> From Dr. G. Stanley Hall, President of Clark University, Worcester, Massachusetts:
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> First. Child-study brings the teacher into close rapport with the pupil, and established that personal bond which brings out the power of the teacher, and especially of a woman teacher. Man may run the school as a machine; his voice, physical strength, and character give him the advantage under present methods. When teaching is a work of love -- to know children measures the love of them -- the woman's kingdom will come in the classroom.
>
> From Col. Francis W. Parker, Principal of Cook County Normal School:
>
> First. The chief value of child study, to my mind, is to enable the teacher to diagnose the personality of the child, to know something of the child's body, mind and soul. The chief value, at present, of this diagnosis to find out children who have defects in hearing, seeing or in other motor activities. In other words, the chief value of child study is to call the teachers attention away from "word Cram" to the child himself. It should follow, then, that if the teacher studies the child she should apply the best conditions for the child's growth. . . .[1]

Butler, Hall, and Parker each emphasized the same subjective value of child-study which Russell viewed as primary. And that subjective value had immediate practical utility by making teaching a work of love in a manner similar to that advocated by Pestalozzi in conjunction with his object-method. Love was to replace the mechanical word cram of monitorial method and of Herbartian subject-matter concentration as the unifying force that gave instruction its meaning.

Child-study drew much more heavily from the feeling and talk of object-method than from the rationale of Herbartianism. Tracing that line of descent, Hall's protégé, William H. Burnham of Clark

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[1] Luckey, 1896: 54.2

University, made the following claim for child-study as a pedagogical discipline:

> Pedagogy based on child study seeks to use all the light that comes from the various fields of psychology, and with that light appropriate all that is best in all the various systems of education. It admits with Pestalozzi the fundamental importance of sense perception. Things before words, the concrete before the abstract, clear perceptions before the working over concepts. With Herbart it maintains also that sense perception is not enough. There must be mental assimilation and the study of casual relations, but also there must be the expression of thought; and, more than Pestalozzi or Herbart, it places emphasis on the active, the productive, the creative processes in education.[1]

Paralleling the way in which De Garmo praised Herbartianism, Burnham argued for the completeness of child-study as a practical discipline of education. Stressing the feeling side of child-study as Parker, Hall, Butler, and Russell had done, Burnham directed attention to the subjective elements of classroom practice with his concern for the "expression of thought," and "the active, the productive, the creative process in education."

Naturally enough, a training program which directed attention at the attitudes and feelings of the teacher-to-be would have things to say about the attitudes and feelings of pupils as well. Thus child-study extended to talk-about-education an open invitation to adopt the terminology and the concepts of introspective psychology. "Expression" and "creativity" became key words in the discussion of what instruction could do for the child. Talk of the aims of education soon abounded with the mention of physical, social, intellectual, and emotional needs to be satisfied.

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1. Burnham, 1893: 10.

Unfortunately, needs were not easy to discover, even if they were easy to talk about. Since they could not be directly observed they had to be inferred from behavior. But inference is a form of speculation; and once begun, one form of speculation led to other forms. Summing up how such pioneers as Hall were pushed over the brink of philosophic speculation D. B. Leary, professor of education at the University of Buffalo, wrote as follows:

> The major interest, at least in the mind of Hall himself, has undoubtedly been that which interested Herbart and James -- what, namely, is the original nature, what are the unlearned abilities, of the child? Unfortunately, direct observation and experiment were not always the basis for evidence; opinion, hearsay, introspection, and memory often too brightly color the reports. Further, the fields covered often represented a select group of children; moreover, the topics investigated often proved too complex -- division was needed. In particular, as Thorndike later showed, Hall's interpretation of the meaning of the order and dates of original tendencies, as well as his application of that doctrine to teaching and to the hygiene of childhood and adolescence, is based rather on speculation than fact.[1]

Severe Limitations

By 1900 Herbartian claims of a comprehensive and consistent rational science had declared the size shoe that would have to be filled by any competing educational theory. Speculation about human nature became a prerequisite to gaining a hearing. But what was necessary for gaining a hearing in professional education was often a reason for ridicule in the rigorous world of the science of human behavior, as the following statement by Waddle suggests:

Statistical treatment of the data presented often tended to

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[1] Leary, 1924: 52.

> give the appearance of exactness and finality to reports made upon the most intricate problems of child nature by persons ill-prepared to undertake such work. The definitely practical aims which most students cherished encouraged rather than restrained the tendency to hasty generalization. The contention of Barnes that "child study" was not a pure, but rather an applied, science, and the oft-repeated statement of many of the State societies that they had no desire to have their work considered pseudo-scientific, did not wholly succeed in preventing the popular mind from so considering it. This fact tended to alienate the more scientific students, and the popularity of the movement as such waned as rapidly as it had arisen.[1]

Uncovered as amateurs at science, enthusiasts of a practice-centered theory of education built out of their child-study findings and speculations on human nature brought discredit to the idea of education as an intellectual discipline. This discredit was heightened by the sentimental reminiscences about children and childhood which filled magazines and some journals, as well-intentioned teachers and sympathetic laymen became the amateur authors of saccharine educational science-fiction. Yet for all this discredit, the child-study movement taken as a whole carried the development of education as a discipline one step beyond the logic-centered theory the Herbartians designed. Waddle described that important step in this way:

> The child-study movement . . . rendered perhaps its most important service in turning the attention of students of education to the study of children, rather than to theories about children.[2]

Such a move away from theories about children and toward the

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1. Waddle, 1918: 92.4

2. Waddle, 1918: 92.1

study of children themselves was the first major sign of a general swing away from reliance upon speculation and toward careful observation in the investigation of educational problems. The belief that observation-centered science free from unwarranted speculation would offer the best predictions for the guidance of practice gradually took hold.

The pioneers of such an observation-centered science of education made well established ideas about empirical science available and intelligible to professional educators while pointing out the deficiencies in Herbartian claims for a logic-centered science. In pioneering the idea of an observation-centered science of education, such leaders as Josiah Royce, William James, and John Dewey helped accomplish what child-study had begun.

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CHAPTER FIVE

RETREAT FROM RATIONALISM: SCIENTIFIC METHOD

> The truth is, that common-sense, or thought as it first emerges above the level of the narrowly practical, is deeply imbued with that bad logical quality to which the epithet metaphysical is commonly applied, and nothing can clear it up but a severe course of logic.[1]

As the landscape buckles, breaks, and boils-up during an era of mountain building, so did the nineteenth century introduce a period of upheaval as both the process and the talk of American education rose above the level of the narrowly practical. Explanations about conducting drill or obtaining obedience within a hierarchical chain-of-command surrounded monitorial method with no more intellectual content than might be found in the Army's basic-training program. Instruction in how to teach according to the object-method added two equally practical components to the normal school programs: demonstration and the discussion of demonstration. But more important to the eventual development of a discipline of education, the advocates of object-method brought a new kind of talk into the normal school -- speculation.

Froebel's concern for the spiritual value of his symbolic gifts and Pestalozzi's efforts to arrange the order of instruction according to the mental and physical nature of the child forced talk about educational matters to include more than the narrowly practical. The object-method training school at Oswego incorporated practical demonstration and broad speculation within the same program, but the Herbartians were the ones who worked on the careful connection of practice and speculation.

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[1] Peirce, 1877: 71.

From the abstract concepts of the culture-epoch theory and apperception to the concrete practice of teaching Robinson Crusoe in the first grade according to the five steps of instruction, the Herbartians sought systematic arrangement. In that effort at building a rational science, thought soared so far above the narrowly practical that it seemed capable of taking its place alongside other disciplines as an independent area of intellectual study -- as much a science as any other metaphysical science, such as ethics or theology. Yet, such a rational discipline of education did not satisfy child-study enthusiasts who insisted on laboratory methods of observation and the careful recording of behavior. Descended from a different scientific heritage, advocates of child-study pointed to their rapidly growing collection of semi-technical data on child behavior as the beginning of a discipline of education. The child-study view of an empirical science of education achieved a brief co-existence with Herbartian rational science in the work of such men as G. Stanley Hall; but as thought about the nature of science gained clearer expression, the conflict between a rational and an empirical discipline grew evident.

A Rational Discipline

Like the fore and aft anchors of a battleship, Herbartian rational science was fastened at one end in abstract speculation and at the other in concrete practice. The Herbartians made the explicit assumption that morality comprises the basic aim of social living and therefore of organized instruction. The Herbartian view of instruction implied that "the word" -- ideas, abstract understanding -- formed the basic unit of learning since the moral lesson could be found nowhere else. Taking such assumptions as self-evident, the Herbartians sought to reach certainty through systematic reasoning. Ernest Nagel characterized such an approach to science in the following paragraph from the International Encyclopedia of Unified Science originally published in 1939:

> In proclaiming the ideal of science to be systematic knowledge, the rationalist tradition has stimulated research and has led to the development of science as something other than an indigestible miscellany of dubious facts. On the other hand, the great services of classical rationalism cannot hide the fact that its theory of self-evidence rests upon an inadequate analysis of the methods of science, so that it has frequently blocked the progress of inquiry and, though pledged to the ideal of clarity, has not seldom successfully courted obscurantism. Rationalism made complete certitude the theoretical condition for genuine science, but its belief that the latter was obtainable could be maintained only by neglecting or misinterpreting the approximate and contingent character of statements dealing with matters of fact. The long history of science and philosophy is in large measure the history of the progressive emancipation of men's minds from the theory of self-evident truths and from the postulate of complete certainty as the mark of scientific knowledge. Some of the major turning-points in that history consist in radically diminishing the class of statements certifiable simply by a rational insight into their truth. And some of the most dramatic moments have occurred when the approximate and incompletely grounded character of allegedly indisputable propositions was recognized.[1]

Occurring at the close of a long tradition organized around the quest for certainty, Herbartian rational science claimed distinguished ancestry. Self-evident truth carried its own credentials, and logical deduction stood open to anyone's inspection. Like mastodons of intellectual evolution, the Herbartians could not fathom that the characteristics which had once made them impregnable would insure their extinction now that the climate was changing.

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[1] Nagel, 1955: 65.

The careful observation of children and the equally careful reporting of observation initiated by E. H. Russell at Worcester Normal School announced the beginning of a change of intellectual climate. Instead of looking into themselves for insight concerning the nature of childhood and learning, child-study workers were looking at children with a minimum of preconception. Speculation was to be supplanted, revised, and eventually challenged by observation.

Earlier the Herbartians had shown the possibility of a systematic and comprehensive discipline of education. The next battle was over what kind of a discipline it should be -- rational or empirical. Though the work of clarifying the issues involved in that battle passed through many hands, John Dewey, William James, and Josiah Royce were chief among those who made the philosophy of empirical science available for educational application. But before they took up the battle, two men had helped bring the skeleton of observational science out where everyone could see it. These men were Thomas Henry Huxley and Charles S. Peirce.

The Spirit of Empirical Method

For several centuries before Americans sought after a systematic science of education, philosophers' observation-centered thinking had been formulating the theory of empirical science. Since philosophy of science was usually conducted in quite technical terms, educationists often remained alarmingly unaware of the intellectual revolution beginning to come to boil beneath their most prized beliefs. By the time Herbartianism took hold as the beginning of a discipline for American education, the philosophy of empirical science had been brought to the attention of workers in all fields. As early as 1854, Thomas Henry Huxley, British biologist and popularizer of Darwinism, provided a clear explanation of the process on which observational science based a claim to knowledge. Speaking "On the Educational Value of the Natural History Sciences," he offered the following general formula:

> The subject-matter of Biological science is different from that of other sciences, but the methods all are identical; and these methods are --
>
> 1. _Observation_ of facts--including under this head that _artificial observation_ which is called _experiment_.
>
> 2. That process of tying similar facts into bundles, ticketed and ready for use, which is called _Comparison_ and _Classification_,--the results of the process, the ticket bundles, being named _General propositions_.
>
> 3. _Deduction_, which takes us from the general proposition to facts again--teaches us, if I may say so, to anticipate from the ticket what is inside the bundle. And finally --
>
> 4. _Verification_, which is the process of axcertaining whether, in point of fact, our anticipation is a correct one.
>
> Such are the methods of all science whatsoever. . . .[1]

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[1] Huxley, 1854: 42.1

Given a formula of this kind, the scientific status of a field could be quickly determined. Huxley took the initiative in this way:

> Biology deals only with living beings as isolated things -- treats only of the life of the individual: but there is a higher division of science still, which considers living beings as aggregates -- which deals with the relation of living beings one to another -- the science which observes men -- whose experiments are made by nations one upon another, in battle-fields -- whose general propositions are embodied in history, morality, and religion -- whose deductions lead to our happiness or our misery, -- and whose verifications so often come too late, and serve only
>
> "To point a moral or adorn a tale" --
>
> I mean the science of Society or Sociology.[1]

General in formulation, popular instead of technical in presentation, Huxley's outline captured more of the spirit than the techniques of empirical science. As a poem to the power of empirical method, Huxley's formula had great powers of attraction. It offered simple steps as guides to investigation and the parallel between biology and sociology inspired confidence that a precise discipline would emerge. The leap from an observational science of the social process to a descriptive discipline of the educative process was not difficult for the imagination. Huxley's concept of "higher divisions of science" in which "experiments are made by nations one upon another, in battle-fields" had its classroom counterpart in the war against illiteracy and ignorance.

Small classrooms qualified as laboratories in a more precise sense than societies did. Child-study had developed methods for careful observation and reporting. An empirical science of education seemed quite within reach, and later advocates of survey and measurement fact-gathering were to claim it had been grasped. That claim took its strength from the careful observation and recording of facts rather than from any great productivity of general propositions actually, or about to be, verified. Inquirers into educational matters had learned their first lesson in a much needed course of logic -- how to ask questions which would bring factual rather than speculative answers. That lesson was Peirce's strongest contribution toward an empirical discipline of education.

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[1] Huxley, 1854: 42.2

Asking Factual Questions

Seldom of interest to anyone but philosophers, technical discussions of the nature of science usually remained confined to scholarly journals and books. Specialists in science itself often lack the background and training necessary to understand what philosophers have to say about science. But in November, 1877, and in January, 1878, Popular Science Monthly published two articles by Charles S. Peirce which brought new insights into the kinds of questions science could entertain to a wide audience of specialists and laymen.

Though technical in their precision, Peirce's articles used popular and controversial examples with which to make his points. As an illustration of meaningless questions which produce senseless jargon, Peirce analyzed the religious concept of transubstantiation. Coming at a time when Darwinian science was challenging

Christian fundamentalism in the context of reason versus faith, Peirce's bold move brought the matter of the meaningfulness of certain questions into the public forum. In his January, 1878 article Peirce raised the issue of what constituted a meaningful question in the following manner:

> Such beliefs (that this or that is wine, or that wine possesses certain properties) are nothing but self-notifications that we should, upon occasion, act in regard to such things as we believe to be wine according to the qualities we believe wine to possess. The occasion of such action would be some sensible perception, the motive of it to produce some sensible result. Thus our action has exclusive reference to what affects the senses, our habit has the same bearing as our action, our belief the same as our habit, our conception the same as our belief; and we can consequently mean nothing by wine but what has certain effects, direct or indirect, upon our senses; and to talk of something having all the sensible characters of wine, yet being in reality blood, is senseless jargon. . . . I only desire to point out how impossible it is that we should have an idea in our minds which relates to anything but conceived sensible effects of things. Our idea of anything is our idea of its sensible effects; and if we fancy that we have any other we deceive ourselves, and mistake a mere sensation accompanying the thought for a part of the thought itself.[1]

Peirce recommended the separation, first, of the denotative from the connotative meaning of a word or statement. This advanced the development of an objective discipline in any field by suggesting that whatever literary or religious value the emotional side of meaning may have, such subjective feeling is a parasite which distorts the objective silhouette of description and sucks nourishment from the literal meaning of the concept. Second, he insisted that the denotative meaning could only be expressed in terms of

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1. Peirce, 1878: 73.1

sense experience. Condensing these two points in a brief statement, Peirce formulated the following pragmatic principle of meaning:

> Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.[1]

This is Peirce's pragmatic principle of meaning by which workers in other disciplines justified the amputation of many concepts or parts of concepts. It set a pattern for insisting that the only meaningful questions were those which could be answered in terms of their practical effect. Peirce's statement was instrumental in bringing about the reaction against metaphysical ideas which Kilpatrick mentioned in his 1924 appeal for a re-introduction of speculation into educational thought.

That Peirce meant his pragmatic principle to apply only to conceptions about factual matters remained obscure, however, in his 1878 article. Thirty years later, he tried to clear up that matter in the following statement which appeared in "Pragmatism in Retrospect: A Last Formulation":

> I understand pragmatism to be a method ascertaining the meaning, not of all ideas, but only of what I call "intellectual concepts," that is to say of those upon the structure of which, arguments concerning objective fact may hinge.[2]

And in that same "Last Formulation," Peirce gave the following expression of the importance of his pragmatic principle:

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1. Peirce, 1878: 73.2

2. Peirce, 1906: 72.1

> All pragmatists will further agree that their method of ascertaining the meanings of words and concepts is no other than that experimental method by which all the successful sciences (in which number nobody in his right senses would include metaphysics) have reached the degree of certainty that are severally proper to them today; this experimental method being itself nothing but a particular application of an old logical rule, "By their fruits ye shall know them."[1]

In a scientific discipline the emotional feelings and purely rational concepts which attach to terms, ideas, concepts and formulations of thought like barnacles on a Cape Cod oyster barge were to be swept off. In his pragmatic principle Peirce had fashioned the scraping tool for cutting conceptions about objective fact free from extra, non-factual, meanings.

In the formation of an intellectual discipline designed to provide answers to important questions, any such statement limiting the nature of possible answers automatically prescribed the limits of answerable questions. As the scent of a scientific discipline of education became stronger, efforts at limiting the kinds of questions to be raised about educational matters increased. Peirce's pragmatic principle and Huxley's general method of science together became the axe and bed of Procrustes. To be judged a fit scientific discipline the questions and answers in each area of intellectual inquiry had to be measured against Huxley's general formula. As each question and answer took its place to be measured, Peirce's pragmatic principle sliced away all non-sensible effects. During the early years of the measurement movement, such "non-

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1. Peirce, 1906: 72.2

sense" questions fell from consideration as part of a discipline of education faster than heads during the French Revolution.

Attacks on Herbartian Rational Science

Advocates of child-study such as E. H. Russell and G. Stanley Hall found the general formula of empirical science implicit in their careful attention to objective observation and descriptive reporting. Educators, such as Thorndike -- caught up in the measurement and survey movements, which developed after 1895 and 1911, respectively -- found the task of answering questions of a narrowly factual nature completely demanding and, potentially, completely rewarding. The early gains made in educational research before 1925 inspired confidence that the careful pursuit of minute factual data would produce a discipline of education comparable in scope to what the Herbartians had envisioned, but without the limitation of common-sense assumptions, rational deductions, and dogmatic assertions.

The idea of conducting inquiry about education according to the general method of science and within the bounds of empirically answerable questions did not overcome the claims of Herbartian rational science without a severe struggle. Many found a rational science in hand far better than an empirical science in the bush. To the practitioner unschooled in the differences between what was obvious to reason and what was observed by the senses, the Herbartian system offered what the experts in child-study and measurement could only promise. Philosophers of a discipline of education had to put the thoughts of such men as Huxley and Peirce into terms which could be understood by specialists in the various areas of educational thought and practice. In 1888, the philosopher, Wilhelm Dilthy, performed just such an analysis of the possibilities and limitations of a discipline of education in a paper read before the Academy of Science in Berlin, Germany.

Denying Certainty: In 1888, Wilhelm Dilthy, professor of philosophy at the University of Berlin, attacked the self-evident moral certitude and deduced conclusions about human nature which Herbartian thought had made central to a rational science of education. Professional audiences in the United States found Dilthy's attack ably summarized and supported by the American philosopher, Josiah Royce. Three years after Dilthy's paper, Royce wrote an article based on it, which he published in the Educational Review. Royce quoted, reconstructed, summarized, and supported Dilthy's paper, "The Possibility of an Universally Valid Pedagogical Science," in the following way:

> Human nature, as a product of evolution, differs from nation to nation, from century to century. Nor is even an abstractly universal formulation of the ethical end of life a useful undertaking. "No moral system has ever yet been able to win universal recognition" (p. 808). The ends of life can only be defined with constant reference to the vital and growing motives and impulses of concrete humanity; and as the latter change so do the ends themselves, with the ethical systems that embody them. Hence the educator cannot hope to have defined for him, with abstract universality, either the material upon which he must always work, -- namely, human nature, -- nor the end toward which he must always aim, -- namely, the highest moral perfection of his pupil. Both these matters are modified for him by the course of evolution, and by the actual social environment. And yet, with all this necessary limitation, does there not remain a field for pedagogical science? Yes, answers Dilthy, in case, not the abstract

> description of human nature, and of the ends of living, but the truly psychological study of the typical forms of human evolution is pursued in the fashion which the historical and biological investigations of modern times have rendered possible. There are a few general laws that hold, not so much as to the content of human nature, but as to the fashion of its organic growth. These biological laws will turn out to have a practical significance. . . . In short, scientific pedagogy, far from telling the teacher finally and completely just what human nature is, and must be, and just what to do with it, will be limited to pointing out what does, on the whole, tend toward good order and toward the organization of impulses into character. "This is the whole province of pedagogy," as a general science. Its application to the conditions of a particular time, nation, family, and child, will be a matter of art, not of science. And "therefore, no concrete educational questions can be solved in terms of an universally valid science." Such questions will always contain elements of uncertainty, will always require the practical skill of the individual educator, and will always receive answers that will vary with time and occasion. . . . But, on the other hand, it is in vain that the inadequacy of science is made a sufficient excuse for knowing nothing of it. The more inadequate science is when alone, the more need of using it as a beginning when we set about our task.[1]

Royce had placed the full weight of Dilthy's thought across the lifeline of Herbartian rational science. By attacking the possibility of certitude in matters of moral aims, Dilthy had challenged a basic Herbartian assumption. By challenging their interpretation of human nature, he brought Herbartian rationalistic science into question. As one voice, Royce and Dilthy protested the abstract formulation of ethical ends and conceptions of human nature. In place of such abstract formulations they recommend "the truly psychological study of the typical forms of human evolution . . . pursued in the fashion which the historical and biological investigations of modern times have rendered possible." This would be investigation conducted according to the method of empirical science, not the rational process of interpreting human nature in analogical terms suggested by a consideration of the cultural stages through which the race was supposed to have passed. Such would be the nature of a science of pedagogy.

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[1] Royce, 1891: 78.

Dilthy and Royce distinguished between a science and the art of pedagogy as well as the kind of science to be preferred by the device of separating the general propositions of scientific inquiry from the art which a practitioner needs to interpret how scientific generalizations might be applied in particular classroom situations. Royce and Dilthy suggested a different relation between theory and practice and, hence, a different concept of education as a discipline than the Herbartians had offered. The Herbartians had assumed that objective information could be systematically arranged and interpreted to supply a convincing demonstration of how to conduct practice. Dilthy and Royce separated the information and generalization of science from the more subjective process of interpretation and application.

Separate Disciplines of Art and Science: In his book of 1901, Talks to Teachers on Psychology, William James took up the distinction between the art and the science of education a decade after Dilthy had been interpreted by Royce. He supplemented their view with the following discussion of two parallel but separate approaches to a discipline of education:

> The art of teaching grew up in the schoolroom, out of inventiveness and sympathetic concrete observation. Even where (as in the case of Herbart) the advancer of the art was also

> a psychologist, the pedagogics and the psychology ran side by side, and the former was not derived in any sense from the latter. The two were congruent, but neither was subordinate. And so everywhere the teaching must agree with the psychology, but need not necessarily be the only kind of teaching that would so agree; for many diverse methods of teaching may equally well agree with psychological laws.
>
> To know psychology, therefore, is absolutely no guarantee that we shall be good teachers.[1]

Thus, James identified Herbartian rational science as primarily a practical discipline of the art of classroom instruction. Drawing intellectual support from the rational psychology which paralleled it, such a practical discipline formalized the successful experience of practitioners into principles of pedagogy. Such practical principles supplied the framework of a discipline of education solidly rooted in successful experience. The psychological terminology and rational concepts which should have been the academic shadow of this framework of practical principles became confused with substance. Mistaking the mixture of shadow and trunk for a fully developed tree, the Herbartians claimed a united and mature discipline, a rational science.

The Herbartian five steps of instruction formalized classroom instruction in a manner most good teachers could recognize as the distillation of what they had been doing for years. To claim that the five steps should be used in classroom instruction because they represent the stages by which the mind learns was to pattern science after successful classroom practice. Much of the Herbartian rational psychology, therefore, was a matter of developing

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1. James, 1901: 43.2

psychologically sounding ideas with which to support viewpoints long since established as workable, as common-sense, or as both. In this way, the Herbartians maintained a verbal link between their theory and their chosen practice, but they contributed little but jargon to the process of talking about the conduct of practice. As an example of this tendency to manufacture hollow verbalisms, William James analysed the Herbartian concept of apperception in the following way:

> 'APPERCEPTION' is a word which cuts a great figure in the pedagogics of the present day. Read, for example, this advertisement of a certain text-book, which I take from an educational journal:--
>
> > WHAT IS APPERCEPTION?
> >
> > For an example of Apperception see Blank's PSYCHOLOGY, Vol. --- of the --- Education Series, just published. The difference between Perception and Apperception is explained for the teacher in the preface to Blank's PSYCHOLOGY. . . .
>
> The conscientious young teacher is led to believe that it contains a recondite and portentous secret, by losing the true inwardness of which her whole career may be shattered. And yet, when she turns to the books and reads about it, it seems so trivial and commonplace a matter,--meaning nothing more than the manner in which we receive a thing in our minds,--that she fears that she must have missed the point through the shallowness of her intelligence. I think that you see plainly enough now that the process of apperception is what I called it a moment ago, a resultant of the association of ideas.
>
> It corresponds to nothing peculiar or elementary in psychology, being only one of the innumerable results of the psychological process of association of ideas; and psychology itself can easily dispense with the word, useful as it may be in pedagogics.[1]

Unmasking sheepish common-sense thoughts dressed in the pretentious

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1. James, 1901: 43.3

wolfskin of technical terminology, James shook the eviscerated skin to show that it had been scraped clean of any psychological content and that its use in pedagogics was due to the emotional connotation the idea carried rather than any descriptive or denotative meaning. Thus, under the sharp criticism of those who had taken Peirce's injunction seriously, the Herbartian theory of apperception could be branded nonsense and discarded in the same sweep that cast the concept of transubstantiation aside.

By discrediting the hollow verbalisms with which Herbartian thinking had sought to bring scientific study to a discipline made up of practical principles derived from the instructional process, James cast favorable attention on the science of psychology as the source from which a discipline of empirical generalizations might eventually be devised. Further, by dramatizing the parallel nature of a discipline of practical principles and a discipline of empirical generalizations, he helped make room for the idea that research in education could emulate research in psychology in method and power of prediction.

Reverse in Method: Dilthy and Royce denied the certainty that Herbartians had taken for granted. James demolished their key concept of apperception as hollow verbalism and exposed the practical origins of its generalizations. In 1896, at the national meeting of the Herbart Society, Dewey called upon the Herbartians to reverse their method. Attacking the culture epoch theory, he called upon his fellow society members to abandon their rationalistic method and to adopt the scientific method Huxley had outlined earlier. Referring to the correspondence the Herbartians claimed between the stages of racial and the stages of child development Dewey argued in this manner:

> Now, in the foregoing I am not questioning the correspondence "in general;" I am simply pointing out considerations which absolutely forbid us to begin from the side of race-development and infer to child development. We must, in all cases, discover the epoch of growth independently in the child himself, and by investigation of the child himself. All the racial side can do is to suggest questions. Since this epoch was passed through by the race, it is possible we shall find its correlate in the child. Let us, then, be on the lookout for it. Do we find it? But the criterion comes back in all cases to the child himself. If this is admitted by the upholders of the theory, many who have thought they did not agree will find themselves agreeing. But to admit this, is to come near, dangerously near, to making the child the center."[1]

With Dilthy and Royce, James and Dewey pointed out the anachronisms of Herbartian rational science. In addition, James and Dewey went on to suggest how educational theorists might develop a new discipline which translated the findings of science for application by practitioners.

Relating the Art and the Science

In 1901, Dewey interpreted the method of empirical science in educational terms so as to make the classroom an experimental laboratory similar to the laboratory-type conditions Huxley had found inherent in the operation of societies. Writing about "Psychology and Social Practice," Dewey explained his view of the classroom as a laboratory in this way:

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[1] Dewey, 1896: 20.

> Now the school, for psychological purposes, stands in many respects midway between the extreme simplifications of the laboratory and the confused complexities of ordinary life. Its conditions are those of life at large; they are social and practical. But it approaches the laboratory in so far as the ends aimed at are reduced in number, are definite, and thus simplify the conditions; and their psychological phase is uppermost -- the formation of habits of attention, observation, memory, etc. -- while in ordinary life these are secondary and swallowed up. While the psychological theory would guide and illuminate the practice, acting upon the theory would immediately test it, and thus criticise it, bringing about its revision and growth. In the large and open sense of the words, psychology becomes a working hypothesis, instruction is the experimental test and demonstration of the hypothesis; the result is both greater practical control and continued growth in theory.[1]

Dewey's suggestion for a classroom laboratory would make the teacher a part-time laboratory technician, observing and recording the results of particular practical experiments. The science of psychology would provide generalizations which were valid within the framework of that discipline. But these scientific generalizations about human behavior would be reasons to suppose that instruction might best be carried out one way rather than another. Such suppositions would be cast in the form of predictions about the conduct of practice. The teacher, as laboratory technician, would document the consequences of acting on those general educational predictions in this and that particular practical situation. The scientific generalizations of psychology would have to be turned into predictions about the conduct of practice. The teacher would test those educational predictions in his particular classroom situation. Predictions about the conduct of classroom

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1. Dewey, 1901: 22.2

instruction require an understanding of practice which the scientist cannot claim, and those same predictions require an understanding of science which the teacher might not possess. Such a situation called for a third kind of specialist, a conceptualist, as William James implied in the following analysis of the gap between the science of psychology and the art of teaching:

> I say moreover that you make a great, a very great mistake, if you think that psychology, being the science of the mind's laws, is something from which you can deduce definite programmes and schemes and methods of instruction for immediate schoolroom use. Psychology is a science, and teaching is an art; and sciences never generate arts directly out of themselves. An intermediary inventive mind must make the application, by using its originality.[1]

Pursuing the same line of thought, Dewey proposed the following triumvirate of psychological theorist, educational conceptualist, and practicing teacher:

> The decisive matter is the extent to which the ideas of the theorist actually project themselves, through the kind offices of the middleman, into the consciousness of the practitioner. It is the participation by the practical man in the theory, through the agency of the linking science, that determines at once the effectiveness of the work done, and the moral freedom and personal development of the one engaged in it. It is because the physician no longer follows rules, which, however rational in themselves, are yet arbitrary to him (because grounded in principles that he does not understand), that his work is becoming liberal, attaining the dignity of a profession, instead of remaining a mixture of empiricism and quackery.[2]

Dewey sought to join the objective science of psychology with the subjective consciousness of the practitioner through the agency of

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1. James, 1901: 43.1

2. Dewey, 1901: 22.1

a linking science of education. In so doing, he provided a many-sided perspective to the problem of establishing an intellectual discipline of education.

First, taking general psychology as his model for objective inquiry and scientific generalization, he did not preclude the possibility of an objective discipline which would describe the behavior of students and teachers in the classroom from the third-person position of a disinterested observer. Child-study observation and the generalization which might emerge could yield an objective science of education.

Second, through the imaginative mind of a conceptualist, psychological science could be translated into predictions about how to improve practice. This body of predictive educational theory could be tested in the classroom, not by a disinterested third party but by a very much interested practitioner. Reports gathered from many practitioners would confirm some predictions and deny others. This body of somewhat confirmed predictions would be a linking science, not so objective as psychology, but not so subjective and personal as one teacher's belief as to what worked and what did not.

Third, each teacher would develop preferences for those parts of the linking science which worked best and fit in best with his classroom practice. Such a subjective preference, based on having tried out parts of the linking science and its rationale, would be a personal philosophy -- first, deeply felt; second, to some degree objectively tested; and third, backed by the authority of the conceptualist who is at once a translator of science and a synthesizer of personal experience. Such a personally tested belief qualified as a subjective philosophy of education or even a personal science of education. And more important, having passed personal, subjective tests, it would have the best recommendation for being tested by others. Passing the personal test of many practitioners, it could be put forth as a philosophy which had gained inter-subjective agreement -- certainly a first step in the long, hard road toward objective science.

The coalition of scientist, conceptualist, and practitioner proposed by Dewey aimed at an amalgam of three approaches to an intellectual understanding of education: observation-centered reasoning, logic-centered theory, and the personal belief or feeling to emerge from practical experience. The bulk of observation-centered reasoning would be left to genetic psychology and any other established science capable of generalizing with stipulated reliability on human behavior. Beginning with those generalizations on the scholarly side and with his personal understanding of practice on the professional side, the conceptualist must achieve a synthesis through interpretation.

This linking science would require the conceptualist to speculate, or extrapolate generalizations about human behavior until they forecast how children might behave under certain typical learning situations. And he would further speculate from his practical experience and guess which areas of science he might most profitably mine, as a scholar, to find potentially useful generalizations -- his raw materials. Up to this point, he might have nothing but a deeply-felt subjective collection of ideas with no discernible logical order. To communicate his ideas to practitioners, however, this intellectual midwife must produce logic-centered talk; and if his talk has scope, he will develop a logic-centered theory of education containing parts the practitioner can test and other reasoned parts which tie the various practices into a conceptual whole, a philosophy.

Finally, the practitioner receives this theory of education, with its predictions to be tested in the classroom, on authority of the conceptualist. In turn, the conceptualist as synthesizer has invoked the authority of more or less detailed practical experience; as translator he invokes the authority of more or less scholarship, and all established science. Trying out some portion of the predictions in an unsystematic way, the practitioner comes to believe or disbelieve in the practical and the speculative aspects of the conceptualist's theory. Having developed his belief in his own classroom, the practitioner tends to feel deeply enough about his personal findings so that his view of the theory will not be severely shaken by someone else's information that the predictions worked out differently for him. The tendency is for the practitioner to feel deeply about the whole logic-centered theory, not just a part of it. As a consequence, he develops a deeply felt personal philosophy.

Nevertheless, the observation-centered reasoning, the logic-centered theory, and the personal philosophy to be developed by the scientist, the conceptualist, and the practitioner each incorporated the spirit of observational descriptive science as Huxley had outlined it. Each opposed a reliance on purely reasoned self-evidence, the quackery of hollow verbalisms, and the formulation of expedient principles drawn from personal experience and passed off as deductions derived from scholarly thought. Objective, translative, or subjective thought about education had been pointed toward increased observation.

Building on the better understanding of empirical science facilitated by such philosophers as Huxley and Peirce, other philosophers -- Royce, James, and Dewey -- made the requirements and the benefits of observational science intelligible to a broad professional audience in America. Enthusiastic about the predictive power which empirical method seemed to insure, those interested in a science of education began to look for it in many forms. Dewey had pointed out ways in which that method could be followed. Just what kind of description the science of education would employ became a subject of much concern during the first decade of the twentieth century. That there soon would be a science of education almost no one doubted.

CHAPTER SIX

DISTINGUISHING RESEARCH FROM TEACHER-TRAINING

> We may begin with the reminder that, as heirs to the nineteenth century, the institutions that we serve and the attitudes that we honor either passed through, or had their origin in, that century. We do not need, of course, to be reminded that the nineteenth century was an era of great pragmatic triumphs. It is entirely understandable that these triumphs should have lead to an amazing confidence in science -- taking science in its broadest sense -- and in research. . . . It is a surprising and sobering study, this now remote optimism and romantic fervor of the scientist and scholar in the nineteenth century.[1]

Inspiration from the gains made by observation-centered reasoning in such descriptive sciences as chemistry and botany, confidence that Huxley's method had unlimited application, and determination to prove the existence of a discipline of education set the threefold keynote on which twentieth century pedagogics opened. Inspiration, confidence, and determination assured energy; and many words would be shot out like electronic impulses to explore thought, returning as strong or weak, accurate or distorted, echoes. As radar proves most necessary when the fog is thickest, such probes sought to trace the elusive and shrouded outlines of a discipline of education. Determining the way Huxley's scientific method could be employed would locate such a discipline more precisely thus enabling it to take a place alongside chemistry, geology, psychology, and sociology as another descriptive science.

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[1] DeWitt, 1950: 27.

Optimism and romantic fervor set the temper of the first ten years of the twentieth century. Conservative and coldly analytic reasoning set in by 1912. And before 1920, Charles H. Judd had announced a pessimism that was an accurate prediction of Dewey's work ten years later in The Sources of a Science of Education. As an area of thought, Judd announced, education is not one but, instead, several disciplines.

In quite a different mood as the twentieth century began, however, Dewey and James too helped generate optimism and romantic fervor concerning a new approach to developing a discipline of education. Better than anyone before them, these philosophers pointed out what a discipline of education was not. By debunking Herbartian rational science, they exposed the shipwreck-rock of observation hovering just below the surface of a calm sea of deductions. To keep teacher training from wallowing in the no-man's-land between observed data and the art of teaching children, James and Dewey proposed a middleman theorist.

Well-informed, a careful observer, thoroughly experienced in the teaching process, a critical editor of his own thoughts, such a middleman could yield reliable opinions. Dewey himself had done just this. A discipline of reliable opinions, clearly identified as opinions, was a subjective stop-gap. Opinions would be confirmed or rejected on the basis of further observation. But even a stop-gap discipline, frankly branded "considered opinion," implied a discipline that would gradually reduce the area needing subjective interpretation. Such a discipline seemed to wear the gown of science.

By the start of the twentieth century, educationists had become many things. Herbartians flourished in great numbers, attending national meetings designed to advance their science of education through scholarship and speculation. Child-study had national, state and local meetings, as well as popular magazines. In G. Stanley Hall child-study had a careful observer turned philosopher. Philosophers of a discipline of education such as James and Dewey were following their flare for speculation too. And in the midst of such energetic activity, J. M. Rice had begun the careful collection of descriptive data similar to that soon to be given statistical interpretation. Sparked by such a clash of viewpoints, the task of pinning down the elusive concept of a discipline of education through definition took on zest. In this active climate of measurement, survey, and statistical interpretation, efforts at organizing data to demonstrate the presence of a discipline seemed much like an intellectual peep-show -- now you see it, now you don't.

Confidence in an Emerging Science of Education

Writing about "Education as a Science" on May 1, 1882, F.A.P. Barnard, President of Columbia, presented an excellent illustration of the interchangeable use of the terms "science" and "philosophy" by Herbartians. Having patted himself on the back for his inaugural recommendation of 1865 that Columbia undertake "properly educating men to the business of education,"[1] he went on to lament the slowness with which this request was being fulfilled:

> It is to be hoped that, with the prevalence of better views of the philosophy of education, this great and long-standing abuse may be corrected. It is to be hoped and expected that its reform may be one of the earliest consequences of the inauguration in our country of a systematic course of teaching, of which the science of education may itself be the object.[2]

Systematically arranged, teacher-training courses would draw their order from philosophy and contribute that order to both the intellectual and instructional side of education. Such would be the self-perpetuating, self-correcting virtues of a complete rational science of education.

Supporting a Rational Science: By the 1890's Herbartian and child-study national societies, as well as the National Education Association, had pumped much talk of a science of education into their journals and teacher magazines. Science, psychology, and philosophy had become so intertwined that the idea of teacher-training and a discipline of education had expanded to include almost all areas of human knowledge. Writing Education as a Science in 1879, Alexander Bain, Scottish psychologist, found it necessary to set some limits to what might be legitimately included under such a title. Advocating "the Prussian National System" (Herbartianism) in the United States, Bain attempted to set the following limits for a science of education:

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1. Barnard, 1882: 5.1

2. Barnard, 1882: 5.2

> I thus propose to remove from the Science of Education matters belonging to much wider departments of human conduct, and to concentrate upon what exclusively pertains to Education -- the means of building up the acquired powers of human beings.[1]

Even this did little good, however, since the means of building up the required powers of human beings could still include just about anything already incorporated in rational psychology. Speculating about the way the human mind operates, Bain went on to illustrate how rational psychology fit into the Herbartian view of science:

> To increase the plastic property of the mind, you must nourish the brain. You naturally expect that this result will ensue when the body generally is nourished: and so it will, if there be no exorbitant demands on the part of other organs, giving them such a preference as to have very little for the organ of the mind. If the muscles or the digestion are unduly drawn upon, the brain will not respond to the drafts made upon it. Obversely, if the brain is constituted by nature, or excited by stimulation, so as to absorb the lion's share of the nutriment, the opposite result will appear; the mental functions will be exalted, and the other interests more or less impoverished. This is the situation for an abundant display of mental force.[2]

Like four horsemen of an educational apocalypse, physiology, psychology, pedagogy, and philosophy combined to form a rational science graced with three cardinal virtues: factual authenticity, logical validity, and practical utility. Careful logical reasoning, the primary virtue of philosophy, was joined with the systematic arrangement of ideas to form a science.

Intent on claiming scientific status for the reasoned solutions to instructional problems, W. H. Payne, President of Peabody

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1. Bain, 1897: 3.1

2. Bain, 1897: 3.2

Normal School and former professor of pedagogy at the University of Michigan, would settle for nothing less than a science of educational values. Writing in 1901, he also included the concepts of quantity and quality in the following paragraph explaining the character and utility of such a science:

> The science of education values is both qualitative and quantitative -- qualitative in the exact scientific sense, and quantitative in the same sense that the temperature of water is quantitative: high or low, as determined by a thermometer.
>
> It is only this science of values that can furnish rational answers to such questions as these: On what ground has the study of algebra been made universal in our high schools? What rational defense is there for the study of the classics? Such inquiries arise with reference to every subject that is taught in our schools, and if education is ever to become a rational art, there must be established a science of educational values, just as there must be a science of food values before there can be a science of dietics.[1]

Payne's science of values and a philosophy of values would be synonymous.

Huxley and Peirce had sharpened the issue of what kind of science any discipline might court. Dewey, James, and Royce had brought the child-study viewpoint to a focus in their middleman theorist working between opinion and empirically established fact. But educationists such as Payne were writing books and organizing teacher-training along lines laid down by Herbart a hundred years before and interpreted by the McMurrys, Van Liew, De Garmo, and Barnard -- all men of influence in 1900. Summing up their concept of the rational science basic to a discipline of education, Samuel B. Sinclair attempted to join the old with the new. In his 1903 dissertation at the University of Chicago, Sinclair announced the following resumé of the past, while attempting to make way for the steps of empirical science as outlined by Huxley sixty years before:

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[1] Payne, 1901: 70.

> The generally-accepted definition of science is that "it is a collection of the general principles or leading truths relating to any subject arranged in systematic order." . . . True science is essentially teleological in character; it possesses a systematized body of knowledge, but systematized as instruments for the reconstruction of future experience.
>
> I hope to show that educational science possesses a body of systematized knowledge arrived at by processes of experimentation, abstraction, generalization, etc., but that such educational theory and the mode of its genesis must be looked upon from the standpoint of function.[1]

The attention paid to defining the science of education during the first decade of the twentieth century attested to both a depth of conviction and a penetrating doubt. Convinced that education was or would soon become a respectable intellectual discipline worthy of the praise-laden label "science," these same advocates felt the necessity of formulating and reformulating their definition of that science. Constantly badgered by the elusiveness of such a complex task, they seemed to be pleading for attention to their meaning rather than literal criticism of their expression and formulation of definitions as if to say, "I know what I mean, but I can't quite say it."

Improving the Discipline: Thursday evening, February 28, 1901, the National Society for the Scientific Study of Education held its first meeting. In spirit and in membership the new organization was a continuation of the National Herbart Society which had its official beginning in 1895. Having insisted on the actuality of a science of education, the members of the National Herbart Society seemed intent on labeling themselves a scientific organization. Consistent with the changed emphasis in the title from "Herbartian" to "Scientific," the group undertook to re-define science as applied to education. In a "Proposed Plan of Work for the NSSSE" to be found in the First Yearbook, 1902, the following definition appeared:

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[1] Sinclair, 1903: 84.

> The scientific study of any subject implies an effort to get at its fundamental principles, and to make as complete and thorough investigation of its problems as specialists in that department can make.[1]

As a statement of intent, this clearly announced that concentrated attention was to be directed at establishing education as a discipline. Adequate as a statement of intent, this left untouched the definitional task of pinning down the meaning of science. The society operated on implicit understandings for three years. Then in the Fourth Yearbook, M. J. Holmes drew together the opinions of twenty-one members on the meaning of the "Scientific Study of Education." The following society members were included in that "Report of the Secretary" designed to make such understandings explicit:

> Ezra W. Benedict, J. Stanley Brown, Sarah C. Brooks, W. H. Burnham, Lida B. Earhart, Edgar L. Hewett, Reuben Post Halleck, John A. Keith, H. E. Kratz, Frank A. Manny, F. M. McMurry, M. V. O'Shea, G. D. Pickles, Stuart H. Rowe, Myron T. Scudder, David E. Smith, David S. Snedden, Edwin D.

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[1] McMurry, C., 1902: 57.

Starbuck, Joseph S. Taylor, E. W. Walker, and Sarah J. Walter.[1]

The twenty-one explicit statements attempting to define the scientific study of education fell into two categories:

1. The majority spoke about general intellectual rigor and systematic arrangement of thought -- Herbartian rational science.

2. A minority looked toward fundamental reforms in the conception of education as a discipline.

Majority Viewpoint -- Confirming Rational Science: The list of points set forth by J. Stanley Brown summed up those definitions which explained the scientific study of education along lines previously etched out by advocates of Herbartian rational science. Brown's five points follow:

> (1) a study of some problem so intensively as to reveal greatest weakness in current treatment. (2) Experimentation with a view to discovering a better treatment of the problem. (3) Comparison of results. (4) Abstraction of needless things in solution of problem. (5) Deduction including only essential things.[2]

Such canons of serious academic or intellectual study called for increased rigor in general. In particular, Brown pointed to a dissatisfaction with much of the thinking then current. His steps, as a matter of fact, almost duplicate the five steps of Herbartian method: organization, presentation, separation, generalization, and application.

Frank McMurry moved somewhat closer to including observation as a necessity for scientific study when he defined science this way:

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[1] Holmes, 1905: 41.

[2] Brown, 1905: 8.

> By scientific method applied to education, I understand the acceptance of some specific problem or hypothesis as the topic to be investigated. Then such a use of the data and logic as will produce conclusions that are convincing to outsiders. The two sources of the data may be books or children.[1]

In the spirit of rational discourse, McMurry supported the power of persuasion over the power of prediction.

Minority Opinion -- Reform: In contrast to the opinion of most contributors, Reuben Post Halleck had reservations as to how far education as a discipline could move toward being a science. Out of a deeper concern for the demands of experimental method than had been exhibited by the majority, Halleck voiced his doubt as follows:

> Inductions performed from experiments on different molecules of hydrogen and iron will have a certainty that educators can not hope for, since no two classes of pupils and no two educators can ever be the same in the sense that different molecules of hydrogen are the same. . . . At the same time, concerted effort among educators ought to disprove many prevalent errors in educational induction.[2]

In opinions such as these, both the minority and the majority voiced their protests against the low level of education as an intellectual discipline up to and including 1905. This negative comment was their testimony to the need they felt for just such an organization as they had -- a National Society for the Scientific

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1. McMurry, F., 1905: 60.

2. Halleck, 1905: 36.

Study of Education. It might better, however, have been called a society for the strengthening and development of education as a discipline.

For most of the twenty-one members who attempted to define education as a science, the idea meant little more than increased rigor. But for David S. Snedden, the concept of education as a science called for an increase in rigor on a scale not yet grasped by many. As a step to unify extremes of rational and experimental approaches to science, he suggested the following:

> . . . Any systematic and careful study ought to be called scientific, provided the investigator can justify his conclusions. Education may suffer from the over application of methods more adapted to concrete sciences, just as it has suffered from too much "dialectic." Let us not worry too much about method, but seek rather to formulate aims in more specific terms than is now the case. We need more work in this direction, and in the direction of agreeing on terminology. Why not have a committee on terminology which might annually issue a report on suggested definitions, which might be generally accepted when a majority of members agreed?[1]

Snedden perceived that without accepted definitions and modes of description, consensus gained on some higher level of abstraction amounted to an exploitation of ambiguity. No matter how functional such an exploitation of ambiguity might be in persuading outsiders, as McMurry suggested, or in indoctrinating teachers, it had no claim to being called a discipline. And such a discipline of education had no claim to the word "scientific" whether it be interpreted in the rational or the experimental sense.

The NSSSE never seemed to rest comfortably under the word

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1. Snedden, 1905: 87.

"scientific." In 1905 a committee on renaming recommended "The National Society of Education." From then on a succession of coincidences produced the official title of "The National Society for the Study of Education." Guy Whipple, long time secretary of the organization, described that chain of events this way:

> The same committee advocated that designation again in 1906, but by some curious turn of affairs, the members voted overwhelmingly in favor of "The Herbart Society," with the proviso that the executive committee might use its discretion to insert "National" or "American" before "Herbart." Because, by accident, the motion was not offered as an amendment to the constitution, the executive committee refused to act, and the matter seems to have passed over until 1910, when a revised constitution was adopted in which the term "Scientific" was dropped and the society thus took on the name under which it has operated ever since.[1]

Moved with the spirit and intent of its Herbartian membership, the National Society for the Study of Education continued to build an intellectual discipline of education. As I. Kandel stated, in the following summary, such construction went ahead against stubborn resistance:

> In spite of the discouraging attitude of colleges and universities to the study of education, the view was soon accepted that a modern university must be an "institution where any person can find instruction in any study," and that from the standpoint of the public the scientific study of education is as urgent as the study of law, medicine, and engineering. It was still necessary, however, and at the beginning of the period no easy task, to prove that the study of education included more than the mere preparation of teachers.[2]

Colleges and universities, where unbiased research might best be

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1. Whipple, 1941: 96.

2. Kandel, 1924: 47.1

pursued, resisted the admission of education as a discipline because of shallowness of content. As though reluctant to treat an alcoholic because of his drunkenness, colleges and universities vainly tried to insist that education attain the sober status of an independent discipline before being admitted for improvement. Yet education courses and programs of professional preparation did become an established part of university and college offerings before any widespread agreement existed concerning the precise meaning of course titles or the boundaries of such overlapping areas of content as method, curriculum, general pedagogy, and principles of education. Possibly more than any other set of publications, the yearbooks of the NSSE gave professors confidence in the content of education as a discipline. Further, the meetings, as well as the publications of the NSSE helped convince professionals that a separate discipline of education was both possible and desirable. Having established intent, the problem of what such a discipline might look like remained.

Mapping Out the Discipline

One of the most careful early explanations of education as a discipline appeared in the first two annual issues of The School Review Monographs. Like the National Herbart Society, these publications had a brief life span under their initial title. Appearing in 1911, the first issue took up the controversial topics of educational method, theory, and science. Paul Monroe and E. L. Thorndike launched an examination of the crucial issues involved in defining the nature of the study of education. Their articles dealt with "Research within the Field of Education, Its Organization and Encouragement." The following year the same matters came to further attention under the title "The Present Status of Education as a Science."

Two Aerial Views: Appearing together in the 1911 Monograph, Thorndike and Monroe spoke with the confidence and vigor of a pride of young lions stalking a marvelous kill. With the first three volumes of his Cyclopedia of Education already off the presses, Monroe had drawn together the best thought of the best minds that had done their best to give meaning to the concepts in which a discipline of education must deal. He had synthesized the discipline out of the past up to the present.

Thorndike, on the other hand, was having considerable success with his application of new statistical techniques to educational problems. With the survey movement just opening up in 1911, Thorndike could see the discipline that might soon emerge from the rigorous gathering and statistical processing of that data. His was a prediction of things to come.

An Eclectic Discipline of Education: The vast editorial task Monroe undertook in organizing the Cyclopedia of Education gave him the tolerance of an anthropologist and the taste of an archeologist. Able to tolerate diversity in method, he saw past workers making significant contributions to education as a discipline even though they did not have the same rigor in scientific method advertised by Dewey and practiced by Thorndike. Appreciating the diverse products of all kinds of thinking and workmanship, as the archeologist must, Monroe was able to exhibit these thoughts for what they were worth and call that collection, eclectic though it might be, a discipline. While praising the work of modern craftsmen, he called for a recognition of the craft exercised by other men, at other times, by other means. It was in such a spirit that he wrote the following appeal for cooperative research in education:

> Hardly less significant than the general professional purposes of research are the types of methods employed. The consideration of method presents another phase of possible co-operation. As previously suggested, method requires such absolute freedom, that the co-operation demanded is often of a negative character, namely toleration, and an acceptance of other judgments and methods as well as a support of one's own.
>
> The traditional methods of logical investigation which appertained to such scientific study of education as existed in centuries preceding the nineteenth have ceased to receive any great consideration. At the present time the number capable of using such methods with results of any value are so few that they are above the general rule; and the question of co-operative effort hardly extends to them. This statement does not deny that there are many phases of philosophical thought in its relation to the educational systems of the past or to the contributions of the present which are open to investigation. It only calls attention to the common attitude that has rejected -- for our own time -- the method of introspection, as a means of solution of the actual problems of objective life. A much more serious condition confronts us in the tendency to reject the observational methods of the Herbartian school and of the nineteenth century in general. While this method has served its time, and more accurate methods which are capable of being applied to certain, if not all, of the phases of education considered by the Herbartian schools have been evolved, the question remains. Is the more recent method alone worthy of acceptance? Under the leadership of the advanced German group, and in general of the influence of experimental psychology on education, there had developed an inclination to deny validity to any other method. This group is strong not only in Germany; it is active in England, and has its representatives with us. The comparative method, whether the statistical or so-called census method -- the American method as it is termed in Europe -- or the historical

> methods of textual criticism and of institutional comparison, are alike rejected. Possibly the appropriation of the term "experimental" need not concern those who use the various forms of the comparative method; but the observational has not yet been so put out of court that no claim to their use of the term exists. What is needed here is toleration. Especially is it true of the two claimants for the term "experimental." The standard by which all could be judged fairly is that of results. Has the newer phase of the experimental method so justified its claim to be the only method of investigation of educational problems, that all others should be rejected? The test should be not alone that of the problems investigated and the conclusions published; but that of the actual truths established, and their final application of such new truths to current educational practice, either by rejection and criticism or by positive contribution.
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> Possibly this is not a fair test as yet of any one of these methods. But it will be the ultimate test. Karl Pearson has said that fully 50 per cent of all scientific research is worthless and much of it harmful. Possibly the statement could be made stronger for education. Certainly such a judgment has importance for the future rather than for the past, since research work in education by any method has been very slight.
>
> Co-operation which is possible and is needed here lies in the breadth of view and the sympathy which will welcome and encourage any form of study, with professional value, and any form of research which has scientific character and promises some result. It certainly is folly to waste time and energy in decrying a competitive method when the opportunity for experiments is so limitless and the needs for definite scientific answers to problems are so great. Though it is true that we have the suggestion of the same great scientist previously quoted that what we need is an endowment of an institution for the suppression of unintelligent research, yet it is only out of the variety of endeavor that we can expect in time to select the tendencies which promise the most.[1]

Compilation followed by careful evaluation, Monroe held, constituted the process by which a clear, concentrated, and useful discipline of education might be distilled. In principle Monroe and Thorndike agreed on the approach. In practice, however, Thorndike proved to be less a man of the rationalistic past and more a man of the factual-empirical future.

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[1] Monroe, P., 1911: 61.2

A Factual Discipline of Education: Monroe viewed the discipline of education as if through a telescope. Making sure to keep the whole panorama visible at once, he sought for as much detail as possible. Thorndike, locating his subject with a Sherlock Holmes type magnifying glass, analyzed the parts in as great detail as his available microscopes would allow. Sacrificing the comprehensiveness of a historical, anthropological, or archeological approach, he reached toward the exhaustive and definitive analysis of the systematic botanist or the comparative embryologist. Each clearly visible fact became a pin-point stitch in what would eventually become a quilted discipline of education. In the following paragraph, Thorndike presented the dimensions of such a task:

> . . . the number of useful studies to be made is, for all practical purposes, infinite. An educational survey of one state would seem to be at least as elaborate a task as a geological survey of a continent. The educational life-history of one boy would certainly demand as much time and skill as the biological history of the ants or bees. The results produced eight years hence in the children who entered the New York City schools this fall offer a problem more complex than that of the results of the contraction of the earth. What physical science has to do in comparison with the cosmologies of the early philosophers, the science of education has to do in comparison with the first generalizations of Herbert, Spencer, or Dewey.[1]

The task of data gathering for a discipline of education had additional complications which Thorndike continued to point out:

> Complexity, variability, and the absence of proper units and scales of measure are the three great difficulties. For

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[1] Thorndike, 1911: 89.1

> example, so apparently a simple educational achievement as knowledge of two-place column addition involves, besides the forty-five fundamental associations and their reverses, at least nine distinct habits or processes. No one of these is constant in its behavior.[1] Hence each must be measured many times in each individual.[1]

And finally, in the following caution, Thorndike suggested the human limitations which would slow down the development of such a factual discipline:

> The most efficient organizer and manager of scientific work of my acquaintance once said: "If you want to do twice as much work, get four assistants; if you want to do three times as much, get sixteen assistants; if you want to do four times as much, you can't."[2]

Thorndike resembled an intellectual Columbus, confident that the trip would be worth the effort but unsure of what might be discovered. Most of all, however, he would dispell thoughts of a brief and simple voyage. Compared with the task of data gathering which field workers faced, the first principles of the Herbartians, *James*, *and Dewey were* arm chair speculations made in comfort.

Set side by side in that 1911 issue of the School Review Monographs, these two aerial photographs of a discipline of education made a composite picture of what was available from the past and what should be attainable in the future. Monroe made the best of the past available in his Cyclopedia of Education and called that the nucleus of a discipline of education. Thorndike sought the best tools for mining the data continually becoming available.

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1. Thorndike, 1911: 89.2

2. Thorndike, 1911: 89.3

Looking to the time when the bucket of factual data would be overflowing, he saw a discipline of education being forged.

Closer Glimpses: Following up on the composite aerial view of a discipline of education as seen with an eye to the past and the future, the second number of the School Review Monographs took a careful look at "The Present Status of Education as a Science." This 1912 volume brought together three specialists capable of identifying the features of educational discipline in smaller segments: V.A.C. Henmon, an educational psychologist from the University of Wisconsin; William C. Ruediger, newly appointed dean of Teachers College, George Washington University; and Chester Parker, important faculty member in education at the University of Chicago. Together, they express high confidence in both the actuality and the perfectibility, or at least improvability, of a discipline of education.

Educational Psychology -- V.A.C. Henmon: Still a new division of experimental inquiry in 1912 and not yet clear in the distinction between research and teacher-training, educational psychology came in for the same species of criticism and ridicule which educational sociology and educational philosophy have encountered more recently. Henmon characterized the serious critics as contending that educational psychology lacked worthwhile content in terms of both facts and principles. Rather than deny such allegations, he ascribed such conditions of intellectual poverty to the belief that the main purpose of educational psychology is to supply simple rules for teacher-training purposes. Summing up the faults inherent in such a narrowly practical view of educational psychology, Henmon supported the contention of the critics in the following way:

> Just as neither a knowledge of physics, nor merely pointing out possible practical applications of physics, will be especially useful to the engineer confronted by a specific problem, so will neither a knowledge of psychology, nor merely pointing out possible practical applications here and there in school practice, help the teacher much. The result of this attitude was that instead of a direct knowledge of psychology the fundamental conceptions of psychology were presented in manuals of method and psychologies for the schoolroom, in which practical rules supposedly deduced from psychology and simplified for practical guidance were supplied.[1]

Then, going one step further, he cut the support from beneath the prevalent belief that such principles of teaching were the educational application of psychological information and theory:

> As a matter of fact, these rules of procedure were not deduced from psychological laws at all but were the outcome of successful practical experience interpreted in psychological terms.[2] [Underlining added]

Having pointed to the source of the new jargon, Henmon had identified one reason why less responsible critics had been given to such continual explosions as the following which he included in his introduction:

> In a recent criticism of education as a science, educational psychology was particularly singled out as "a pretentious humbug that has grown like an excrescence on the body educational."[3]

The search for simple, mechanical rules whereby teachers could be trained quickly, in quantity, led to this verbal piracy of general

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1. Henmon, 1912: 40.4

2. Henmon, 1912: 40.4

3. Henmon, 1912: 40.1

psychology. Henmon did not sanction such efforts by including them as the psychological portion of a discipline of education. In place of such verbal gymnastics and oversimplification in the name of practice, he sought to establish educational psychology as an area of fact-gathering and law-making quite like general psychology in nature but distinct in function and focus of attention. In the following paragraph he explained both the similarity and the difference:

> The problem of educational psychology is distinctly different from that of general or genetic psychology. Each has a common object -- the knowledge of mind and its laws -- but the point of view is different. To borrow a distinction made by Messmer, psychology is concerned with mental processes, educational psychology with mental work. Psychology studies the natural activity and development of minds, educational psychology studies the activity and development of minds, when it is definitely directed to the attainment of certain ends. The one studies the processes that are involved in natural, undirected learning, the other the way in which these processes operate most economically and effectively when directed to the acquisition of the experience embodied in the curriculum. Systematic, constrained mental performance differs radically from spontaneous, uncontrolled activity both in its methods and results. Psychology studies the nature and forms of association; educational psychology the best and most economical methods of forming the associations demanded for a mastery of the knowledge which experience has shown to be most useful and most essential.[1]

Such a discipline of directed learning would have facts and principles of its own drawn from the same kind of inquiry as conducted in general psychology. With educational psychology as a nucleus, a discipline of education might freely develop.

With Thorndike, Henmon looked forward to the almost infinite number of useful factual studies that could be conducted without

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1. Henmon, 1912: 40.6

worrying about whether these would be called general psychology or part of a discipline of education. Dividing the labor for convenience, he suggested that education focus on the facts and principles of directed learning, as it took place through the curriculum. The object of investigation would thus be the student in school. The classroom would be the laboratory. Other workers might work with the same person at different times and in different settings, and those findings would be pertinent of some other aspect of psychology.

For Henmon, educational psychology was a special branch of the science of psychology and, as such, followed the same general plan for conducting research as Huxley had outlined almost seventy years earlier. Such a division of labor would make educational psychology a distinct discipline of how men might best apply themselves to attaining certain stated ends, a science of application. From this Henmon concluded that "educational psychology would thus have a specific problem of its own and would ultimately develop its own methods,"[1] and "actual school experiments will ultimately be the basis on which the science will rest."[2]

Distinguishing clearly between experimental research and principles of successful teaching cast in psychological terms, Henmon guided educational psychology away from a dependence on its rationalistic past toward academic and scientific respectability in the near future.

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[1] Henmon, 1912: 40.7

[2] Henmon, 1912: 40.7

Principles of Education -- William C. Ruediger: Ruediger classified the major divisions of education as a discipline. Finding a place for the fact-gathering advocated by Thorndike and Henmon, he also found space for the principles fashioned from successful experience. Exploring in greater detail, Ruediger coordinated the views of past and future which Monroe and Thorndike had personified separately the year before. Looking at education as a term comparable to medicine, engineering, or architecture, Ruediger classified three major aspects of such concepts:

> (1) The concepts stand for vast fields of practice, professions, where the results of science find application for the direct benefit of mankind.
>
> (2) Education as a profession has a theoretic side which rests on and embraces many sciences.
>
> (3) The pure sciences order facts and principles on the basis of logical similarities and relations.[1]

The art of practice whereby mankind benefits directly from the actions of other men represented one side of the concept "education." But education as an intellectual discipline was a theoretical, not a practical endeavor; and such a theoretical discipline eventually rested on the logical similarities and relations of scientific research. Thus, Ruediger spoke of the eventual basis for an entire discipline of education in the same terms Henmon used to emphasize the similarity of method between educational psychology rightly conceived and experimental general psychology. All

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1. Ruediger, 1912: 79.1

would use the methods of experimental science, but each would be distinguished by his choice of observational area. The uniqueness of a discipline of education would be its organization. Pure sciences make logical relations available to applied sciences. Applied science makes useful relations available to practice so far as possible. A discipline of education would be a supra-applied science which drew together the material in several applied sciences and organized them for use in teaching. Speaking of this hierarchy of application, Ruediger made the following statement:

> What is true in the professions generally, is true also in the profession of teaching. So far as teaching has a theoretical aspect, this aspect is represented by a group of applied sciences, and these in turn are closely related to a group of pure sciences.[1]

Research in the pure sciences was not only distinguished from the beneficial activity of practice -- in the case of teaching it became twice removed. Between pure science and practice the applied sciences and the discipline of education had intruded. And that discipline of education resembled the linking science of education which Dewey and James had mentioned earlier.

In place of Dewey's middleman theorist, Ruediger suggested an explicit discipline; but the function was the same, namely, to make the findings of established science useful to the teacher. Thus, it continued to be quite simple to equate the study of education with "the mere preparation of teachers," as Kandel put it.[2] The

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1. Ruediger, 1912: 79.2

2. Kandel, 1924: 47.2

established sciences supplied the raw material, the applied sciences processed those materials, and the discipline of education distributed them to teachers for application. But Ruediger had a new wrinkle, to wit, feedback. He explained this additional source of new raw material as follows:

> That there is a relation of content between the pure and applied sciences cannot be denied, but this relation is largely a reciprocal one. The applied scientist may indeed turn to the pure scientist for principles, and even for facts, just as the pure scientist gets many of his facts and problems from the practitioner, but before the applied scientist can make adequate use of the data so obtained he must reorganize them and test their application. The latter step frequently not only involves experimentation, but leads to new problems that fall to the lot of the applied scientist for solution. Indeed, an applied science should certainly progress no less through the researches prosecuted in the related pure sciences.[1]

Much after the manner prescribed by Henmon, the applied sciences and the discipline of education as an inter-disciplinary science of application would gather its own facts and offer its own generalizations. Such facts and principles would be produced by the discipline of education to be fed back as plasma into its veins, giving the body of content new raw material unobtainable from any other source.

But in assessing "The Present Status of Education as a Science" Ruediger owed allegiance to all sources from which a discipline of education might obtain valuable content. Summarizing the full scope of such a discipline, he offered the following conclusion:

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1. Ruediger, 1912: 79.3

> Educational progress on the side of the curriculum and the course of study, and pari passu in the principles of education, can be contributed to from the following four sources at least: (1) by a historical study of the relation of the school and society; (2) by utilizing the advances continually being made in the pure sciences; (3) by generalizing from existing educational practices; and (4) by formal experimentation and quantitative measurement.[1]

By analyzing each of the four sources, he characterized the state of the discipline in 1912. Acknowledging the importance of past thinking, he had the following praise for historical study and generalization from past and existing practices.

> When we look upon the content and practice of education as they were no farther back than at the time of Basedow and Pestalozzi and then look upon them as they are today, we are fairly struck with the amount of progress that has been made. This progress has been made less, no doubt, through formal experimentation and measurement than through informal trials and successes and through the generalizations and descriptions made on the basis of existing practices by the insight of educational leaders.
>
> Education is a practical art as well as an applied science. It ranks in this respect with agriculture, government, navigation, and business. In all these fields practice rests at present only in part on scientific laws and principles held consciously. But all successful practice undoubtedly does rest upon such laws and principles, and it is the duty of the scientist to make them explicit. He should study the practices about him and generalize from them. It is in this way that by far the most of our principles of education and of teaching have been obtained. Nor should this method of inquiry be disparaged. Social life is the primary laboratory for the social sciences and it is abundantly in place for the scientist to make use of it as such.[2] [Underlining added]

Looking forward in time, Ruediger foresaw the dependence on generalizations from present experience giving way to a discipline of education developed through laboratory classrooms. Confident that the kind of discipline Henmon foresaw in educational psychology would spread beyond method and administration, Ruediger offered the following optimistic prediction:

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[1] Ruediger, 1912: 79.6

[2] Ruediger, 1912: 79.7

> Educational theory is now in possession of a number of quantitative studies, but these appear to fall entirely into the domains of educational psychology, educational method, and school administration. In the principles of education, as here defined, only general studies have so far been made. But there is no reason why the effects of different curricula, ideals, and the like should not be subjected to statistical study and mathematical measurement. The report of the University of Chicago Elementary School as given in Dewey's School and Society approaches this, and as laboratory schools in connection with teachers' colleges and departments of education get more common we can expect much more in this line. It is more difficult to measure precisely the social influences of education than to test methods of instruction, and so far the facilities for making such measurements have been but meagerly available; but the laboratory schools that are now being established will bring in this opportunity and we may rest assured that our college teachers of education will take advantage of it. It would be well indeed if every school system of considerable size would set apart one of its schools as a model or laboratory school with a well-trained educational expert in charge. Scientific progress in education would then begin to have the chance that its importance deserves.[1]

By 1912 Ruediger could see Thorndike's type of quantitative study steadily displacing the qualitative generalizations from practice which comprised the bulk of education as a discipline at that time. In this respect, Ruediger held the same view of the future imminence of a quantitative discipline of education as that maintained by the third author writing on "The Present Status of Education as a Science," S. Chester Parker.

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[1] Ruediger, 1912: 79.8

Educational Methods -- S. Chester Parker: In addition to stating his confidence in the imminence of a quantitative science of education, Parker catalogued the degree of dependence the 1912 discipline of education owed to generalizations made from successful experience or from common-sense. Diverging only slightly from the four-part division of the study of education supplied by Ruediger, Parker presented his categorization under the following heading:

> PRINCIPLES OF METHOD DIVIDED INTO FOUR CLASSES ACCORDING TO ORIGIN
>
> For purposes of discussion, current principles of educational method may be divided, from the standpoint of source or origin, into four groups, as follows:
>
> 1. Those principles which have become current as the result of a long historical tradition which is characterized by more or less systematic a-priori analysis and argument.
>
> 2. Those derived from more recent developments in general psychological theory, such as the work of James and Dewey.
>
> 3. Those which are corollaries of the results of experimental psychology.
>
> 4. Those which have been reached by direct experimental and statistical investigation of actual schoolroom processes.[1]

Where Ruediger and Henmon spoke of the a priori principles which made up the majority of educational theory at that time, Parker took the pains to list a considerable number of examples. Beginning with Rousseau, he listed the following eight principles from Emile:

> 1. Methods of instruction should aim at many-sided maturing and training of the individual. (Emphasized by Pestalozzi

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[1] Parker, 1912: 68.1

as "Harmonious training of the faculties" and by Herbartians as "many-sided interests.")

2. Methods of teaching should be adapted to the maturing of the child's instincts and capacities. (Especially emphasized by the Froebelians.)

3. Real experiences (with things or persons) should be the starting-point of instruction. (Developed primarily as Pestalozzian object-teaching.)

a) Hence, home geography should be the starting point of geography teaching. (A direct connection from Rousseau through Salzman, Pestalozzi, Karl Ritter, Arnold Guyot, Colonel F. W. Parker to the Frye geographies of today.)

4. Children learn through motor activity which should not be wasted in random play, however, but should be connected with observation, reasoning, and expression, especially drawing. (Emphasized by Basedow, by Pestalozzi, to a limited extent, by the Froebelians and Dewey.)

5. Premature memorizing of words and symbols without understanding is pernicious and spoils the child's judgment. (Emphasized at first by Pestalozzians, but soon degenerated, revived by Herbartians and Froebelians.)

6. The ability of children to reason about matters within their comprehension justifies emphasis on the investigation of small problems of applied science. (This principle was long neglected. It was emphasized somewhat by Froebelians and especially by Dewey.)

7. The study of social relations should be approached from the industrial standpoint. (Emphasized somewhat by Basedow, Pestalozzi, and Froebel; recently given special emphasis by Dewey.)

a) Robinson Crusoe should serve as a central core for a study of problems in applied science, and as a basis of approach to the study of industrial and social relations.)

8. The child's present interests and curiosity should activate instruction in the early years, and his appreciation of the utility of the school processes in later years. (Emphasized by Basedow and the Herbartians and Froebelians; now being emphasized in the reconstruction of the upper-grade teaching and high-school mathematics.)[1]

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[1] Parker, 1912: 68.2

Parker found Pestalozzi responsible for the objective oral method of instruction and also for the principle of proceeding from the simple to the complex. To prove that the method had not disappeared, Parker pointed to the simple-complex approach embodied in contemporary reading instruction: some teachers began with single letters or with simple sounds. On further examination the objective oral method turned out to have the following significance:

> . . . the Pestalozzians carried out, independent of the influence of Herbart, the elaboration of oral instruction which has come to be identified in the minds of many persons with the steps of preparation and presentation in the Herbartian formal steps. Warren Colburn went even farther, and in the preface of his Intellectual Arithmetic, published in Boston in 1821, formulated what he called the method of "analytic induction," which parallels the Herbartian steps. Inasmuch as Colburn's book was widely used in America until after the middle of the nineteenth century, it is fair to assume that many American teachers were acquainted with the process represented in the Herbartian steps before these were popularized in the nineties.[1]

Parker credited Froebel for two advances: the emphasis on motor expression and the concern for participation in a cooperative social situation.[2] The Herbartians in turn sponsored the formal steps of instruction and the principle of correlation.[2] After such a list of examples, Parker forwarded the following conclusion along the same lines mentioned by the three former authors:

> Such traditional a priori principles constitute the largest part of contemporary principles of method. Only a few examples have been given, but the list could easily be prolonged until the stock of current principles was almost exhausted.[3]

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1. Parker, 1912: 68.3

2. Parker, 1912: 68.4

3. Parker, 1912: 68.5

Parker's demonstration that the educational thought of that time consisted largely of a priori rules couched in psychological and philosophic terms directed attention to the status of education as a rational discipline. But as with Henmon and Ruediger, this conclusion did not keep him from realizing the potential of a new kind of discipline that had been already achieved in part. Such an intellectual split-vision enabled Parker to give credit to older approaches without losing sight of how much of the future was already implicit in the present. Turning from a priori sources to observed evidence in the following manner, he affirmed his confidence in what the discipline of education was becoming:

> Even if we follow Thorndike, and eliminate from a possible "science of educational methods" the first two sources which were discussed above (a-priori traditional and general psychological) it is easy in connection with the third and fourth sources (experimental psychology and direct experimental and statistical investigation of methods) to demonstrate that such a science has "arrived" and is with us "essentially," as Huxley said of biology in 1854. Hence if the question were narrowed to read, "Is education an experimental science which uses reliable methods of control and secures precise measurements of results?" we may prove that it has reached even this stage of development in connection with certain of its problems; and no better evidence need be cited than such studies as those of Courtis on arithmetic. . . .[1]

Final Fate

The 1911 and 1912 issues of School Review Monographs boldly announced that the discipline of education was an accomplished fact. Though such a discipline had much to contribute to the training of teachers, all authors indicated that the discipline did

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1. Parker, 1912: 68.6

not owe its existence to that function.

Monroe, Ruediger, and Parker openly stated that the great bulk of the discipline came from *a priori* thinking rooted in successful past practice and less rigorously controlled inquiry than science was then demanding. With Thorndike and Henmon, these authors unanimously looked forward to a rapid expansion of empirical investigation and information. They foresaw that careful observation and guarded generalization would gradually move the main body of content of a discipline of education away from a dependence on *a priori* sources to a reliance on the same sources of scientific thinking as Huxley, Peirce, Royce, James, and Dewey had advocated years before. What in 1911 and 1912 authors could not take into account was the fact that a change in the kind of content being gathered would lead to a change in the kind of organization necessary to give it meaning.

A discipline in which the same, or at least very similar, *a priori* generalizations permeated all the various branches could be quite comprehensively mastered by one man, and such a scholar could offer a unified synthesis of the field as a whole. Identifying 1910 as the pivotal year in which such an exhibition of genius became clearly impossible, Kandel explained from the perspective of 1924 what scholars writing twelve years earlier could not have been expected to see. After making a comparison of the simple list of courses offered at Teachers College, Columbia, in 1898, with the enlarged program of 1906, he went on to say:

> Five years later it became possible to consider seriously the problem of research within the field of education.

> Hitherto the various studies were isolated and unconnected subjects within the larger field. After 1910 the field gradually became so wide and its subdivisions so highly specialized that no student could be expected to master them all. The rapid development of facilities for the graduate study of education leading to advanced degrees may be said to have begun at that time. . . .[1]

In 1918, six years before Kandel's recapitulation and six years after the articles by Henmon, Ruediger, and Parker, C. H. Judd clearly formulated the problem facing education as a field of inquiry. In his book, Introduction to the Scientific Study of Education, Judd argued against the idea of viewing education as a single discipline along the same lines later taken by Kandel. His reasoning went as follows:

> The science of education aims to collect by all available methods full information with regard to the origin, development, and present form of school practices and also full information with regard for social needs. It aims to subject present practices to rigid tests and comparisons and to analyze all procedures in the schools by experimental methods and by observation. It aims to secure complete and definite records for all that the school attempts and accomplishes. The results of school work are to be evaluated by rigid methods of comparison and analysis. To direct studies of the school the science of education must add full studies of the social life of which the school is a part and of the individual nature which is to be trained and molded through the educational process. . . . This program is so comprehensive in its scope that it becomes evident at once that the science of education is a composite science requiring the cooperation of many investigators. In its formulations it may deal in a broad way with general problems, or it may break up into numerous subdivisions appealing to the specialist.
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> It would therefore be more accurate to describe it as a group of specialized studies rather than a single discipline.[2]

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1. Kandel, 1924: 47.4

2. Judd, 1918: 46.

Judd and Thorndike shared the same vision of the enormity of the research task involved in merely gathering the factual data with which to describe educational practice. Viewing such practice as a social activity too broad to be studied as a whole, they recognized the need for coordinating the findings of numerous specialists working in all manner and variety of distinct areas of investigation. As the study of man as a biological organism depended on the development of special sciences, such as anatomy, endocrinology, neurology, and genetics, so would the study of man as a learning organism in a social setting depend on the appropriate division of the labors of investigation.

For Judd a science of education was almost as overwhelming an enterprise as a science of all of life or a science of social institutions. An understanding of such an expanse of social activity and individual behavior -- involving at least two of society's major social institutions, the school and the home -- without drawing on the full spectrum of available specialists he considered unthinkable. In place of talk about a unified science of education Judd called for a disciplined approach to the study of the teaching-learning activity in all its aspects. And it had to be the scholar's kind of discipline which put "knowing about," in the sense of factual data, ahead of "knowing how," or practical application. The numerous specialized studies would begin as separate areas of empirical investigation. Judd had faith that such separate specialties could cooperate with one another and eventually be coordinated into a composite science of the educational process. It was in this way that he approached the concept of education as an intellectual discipline.

Summary

In line with the two thousand year old tradition of rationalism, the Herbartian view of education as an intellectual discipline combined a shrewd sense of workability with the dialectician's gift for casting a priori generalizations in the terms of contemporary science. Led to expect that particulars of practice should be deduced from systematically organized theory, educators quickly adapted the newer terminology of experimental psychology as a cloak to provide a new outline to old generalizations drawn from generations of successful practice. Underneath such camouflage, practice remained the basic source of, as well as the raison d'être for, the ideas designated as the content of education as a rational discipline or science. It was such a practice-centered view of education which Brown and McMurry defended in the Fourth Yearbook of the National Society for the Scientific Study of Education, published in 1905.

In 1911 and 1912 Monroe, Thorndike, Henmon, Ruediger, and Parker stripped away the camouflage from education's rational science and exposed the a priori generalizations on which it depended. Parker and Ruediger went further and suggested that talk based on practical experience, on established beliefs still untested, and on logic-centered speculation be separated from observation-centered reasoning. Thus practice-centered talk could be used in teacher training wherever needed without contaminating the observation-centered reasoning basic to the empirical discipline of education which seemed to be emerging from measurement and survey investigation. Under such an arrangement the immediate practical task of training teachers would have access to whatever generalizations seemed most useful; it would be frankly expedient and eclectic. The long range scholarly task of developing an intellectual discipline of education which would first supplement and eventually supplant practice-centered talk would be just as frankly observation-centered. Freed from the demand for hasty overgeneralizations framed for the sake of giving emergency aid to practice, observation-centered reasoning could attempt to emulate the established descriptive sciences. Ideally, observation-centered research would enlighten teacher training by continually reducing the number of a priori generalizations.

In the decade before World War I the problems of observation-centered research and of practitioner preparation became unmanageable. On the one hand, research had begun to splinter into fractional disciplines. By 1910, according to Kandel, the subdivisions became so numerous and so specialized that no student could be expected to master them all. On the other hand, teacher training had been assigned the task of providing practitioners for schools that were rapidly assuming the burden of all manner of social service in addition to providing improved instruction.

Sensitive to these new dimensions of practitioner preparation, Judd saw the need for initiating scholarly investigation into all areas of social activity relevant to this new conception of the role of the public schools. In effect, Judd, and Thorndike too, had warned researchers that the factual description of public schooling seen as a major social institution would have to cover more ground than all descriptive science had examined before Darwin. And to cover such a wide range of investigation it became necessary to divide and subdivide areas of inquiry into segments of special study appropriate to the tools, and techniques of research as well as the interests and capacities of researchers. Thus Judd described educational science as composite -- composed of a group of specialized studies rather than a single discipline.

Thorndike, Henmon, Ruediger, Parker, and Judd all agreed that the future of education as a discipline, or as a group of specialized studies, lay in a careful cultivation of observation-centered reasoning uncluttered by the _a priori_ generalizations so familiar to Herbartian rational science and so much a part of teacher training. Only Monroe registered a protest against the premature abandonment of the old tools before the new ones had been fully tested and perfected. All six of these authors took it for granted that the careful accumulation of factual data in an atmosphere free from the demands of immediate practical application would be encouraged and accelerated so that a composite science of descriptive and predictive content would eventually be developed. Each had faith in the cumulative effectiveness of fact gathering pursued with diligence, care, and a scholarly interest in knowing about things. No one, except possibly Monroe, anticipated that the cause of a discipline of education based on observation-centered research might come to harm at the hands of practice-centered rationalists convinced that such factualism had failed to supply guidance for the conduct of instruction. In 1911 and 1912 observation-centered research seemed to be the royal road to a discipline of education while the practice-centered generalizations of teacher training seemed destined one by one to be made unnecessary or obsolete. Two decades later, however, a priori generalizations and practice-centered research had begun to displace observation-centered research as the basis for a different kind of educational discipline. The failure of factualism had left the idea of education as a discipline quite confused again.

CHAPTER SEVEN

THE FAILURE OF FACTUALISM

> In a more real sense than was ever dreamed by Sir Joshua Fitch in 1900, the schools and school systems of the country have become the experimental stations of a vast array of organizations for the study of education; and experimentation by trial and error methods are being replaced by experimentation under the control of scientific method.[1]

Up to this point the term empiricism has been used to designate the general, anti-rationalistic direction taken in the gathering of observation-centered data. Now it becomes necessary to identify a half-way point along the path to an empirical science, namely, factualism.

In the factual stage separate pieces, or small clusters, of data have significance only as isolated items of information. For example, the careful cataloguing of stellar movements by Tycho Brahe constituted discrete collection of facts by means of which Kepler derived the principles of siderial motion. Kepler developed an intellectual framework which unified Tycho Brahe's information; but until he did, the information resembled bricks and lumber to be used in a building not yet designed. Thus, factualism may be characterized as antecedent to observation-centered reasoning. It consists in data gathering before reason has been fruitful in discerning a comprehensive design implicit in the data itself.

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[1] Kandel, 1924: 47.3

Between 1912 and 1924 observation, description, and factual reporting expanded like an explosion in teacher-training with its practice-centered attempts to produce somewhat scholarly talk for immediate use.

The idea of education as an intellectual or subject-matter discipline passed through the intellectual puberty rites of careful analysis about 1912. Anticipating the ritual, Royce, James, and Dewey had set out the ground plan for education as an empirical science. Herbartian advocates of a rational science mistook the adolescence of systematic deduction for adult behavior. In 1911 Monroe and Thorndike corrected this oversight by pointing out the full range of observation and deduction that characterizes a discipline from infancy to maturity.

The actual rites were administered publicly by Henmon and Parker in 1912. In their School Review Monographs they exposed the past practices to careful criticism while outlining the demands the future would impose. Attesting to the heavy dependence present content owed to a priori generalizations, each author also affirmed his belief that future behavior would be different.

In 1912 the increased rigor in fact-gathering that had developed under the careful guidance of serious students of child-study offered support to that belief. By 1918, when Judd characterized the study of education as a series of separate disciplines joined primarily by a common concern for the same social institution, the evidence was overwhelming. Any effort to return to a simple rational science of education was as impossible as turning an advanced industrial society back into a succession of self-sufficient rural communities. In the case of education the difference had been made by the shift of concern from the investigation of individuals to the investigation of groups. General psychology, child-study, and educational psychology offered much valuable data, but the scope of coverage resembled pin holes in a wall map of the United States: where they touched, they penetrated; but each hole stood out alone, and a lifetime of poking would not connect them. The investigation of group performance, begun in 1895 by J. M. Rice and extended greatly by the survey movement after 1911, promised coverage on the scope insisted on by Thorndike. And at the same time, the data promised to become unmanageable unless systematically interpreted and catalogued. Three of the most important contributions to making that data available for use have been Paul Monroe's Cyclopedia of Education, the Yearbooks of the NSSE, and Walter S. Monroe's 1941 Encyclopedia of Educational Research. Together, they sum up the change that took place with regard to the content of the study of education from the time it was just emerging as a separate discipline in 1895 to the period of 1941, when it was being divided into a supra-subject called the "Foundations of Education."

Competing Approaches to Research

The two possible patterns of research available for developing a discipline of education were both established before 1900. Following general psychology in the tradition of detailed scientific investigation, the serious students of child-study had begun to gather extensive data about individual cases. Looking toward the establishment of a scientific discipline of child-study, these students moved in the direction of a discipline of education based on narrowly controlled observation resembling laboratory research.

Pursuing inquiry in a different direction, J. M. Rice attempted to gather objective information covering a huge population of students in order to establish standards of expectation. In his 1895 project Rice pioneered the achievement testing and survey movements. These inundated the various areas of educational inquiry with such a supply of data that cataloguing generalizations and studies for use became a necessity rather than a convenience. In contrast to the controlled atmosphere of laboratory research, the methods introduced by Rice took a broad field survey approach to the development of a discipline.

Beginning Broad Field Surveys: In February, 1895 J. M. Rice, editor of the Forum, began a ten-month study designed to show "what our teachers have accomplished in spelling, and what, therefore, may be reasonably demanded of our schools in this subject."[1] His overall aim in testing nearly thirty-three thousand children[1] was best expressed in the following part of his 1897 article, "The Futility of the Spelling Grind":

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[1] Rice, 1897: 77.2

> I endeavor to prove that the first step toward placing elementary education on a scientific basis must necessarily lie in determining what results may reasonably be expected at the end of a given period of instruction. If we have no definite notions in regard to what our teachers ought to accomplish, our ideas must be doubly vague as to how much time needs to be devoted to each branch. And as long as this remains unanswered, no well-founded opinion can be given concerning the possibility of broadening the course of study without detriment to the formal branches -- the point around which the entire question of educational reform revolves.[1]

Confining his study to performance in spelling, Rice restricted attention to the objectively observable product of student behavior. In place of an exhaustive examination of individuals in search of reasons why performance went up or down, Rice concentrated on one aspect of performance extensively explored by the testing of many classroom groups. In attending to the collection of the simple facts of performance without a search for causal factors, Rice collected considerable data. In so doing, he set a pattern of data collection which fit in well with the survey techniques and statistical processing of information soon to get underway. Such an approach made it possible for researchers to look forward to gathering information about the social institution of education on the nation-wide scale called for by Thorndike. This information, gathered directly from the field under actual teaching conditions, held considerable appeal for some researchers. It was just such an appeal which Thorndike found attractive in the year when the survey movement was beginning. He spoke of it in the following terms in the 1911 issue of the School Review Monographs:

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1. Rice, 1897: 77.1

> What makes quantitative work in education easy is the case of securing material. Any town would provide this entire society with matter for study for all our lives. We need not wait for comets, nor travel to mountains, nor pay for rare earths, nor construct elaborate apparatus. Although expensive educational laboratories, museums, clinics, hospitals, experimental schools, expeditions, and the like are of very great service, no one of them is a _sine qua non_ in the present state of the science.[1]

More Controlled Observation: Though not claiming the laboratory approach to the study of education as a _sine qua non_, both James and Dewey favored that approach, since it paralleled developments that had just shown such marvelous results in general psychology. The experimental school which Dewey conducted at the University of Chicago suggested that a quasi-laboratory approach offered much in terms of (1) original data and careful observation, (2) experimentation in the arrangement of data for application, and (3) the practical training of a conceptualist capable of building a linking science between psychology and teaching.

Another prominent psychologist, Otto Munsterberg, explored the possibilities of a laboratory approach to the study of education in an article for _Educational Review_ published in 1898. Beginning with the following statement of what a discipline of education must do for itself, he concluded with an opinion of how the task might best be accomplished:

> It [education] cannot expect to find every necessary psychological and physiological information always ready-made. As no science is merely a collection of scraps, psychology as such cannot examine every possible psychological fact in the universe, but must select just those which are essential for the understanding of the psychical elements and laws. This

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[1] Thorndike, 1911: 89.2

choice in the interest of psychology differs of course fully from the choice of psychical facts which education would select for its own purposes. Here the science of education must take the matter in its own hand and must work up, with all the subtle means and methods of modern psychology, those psychological phenomena which are important for the special problems; the most intimate relation to the psychological laboratories is here a matter of course. In what form education will fulfill this demand may be of course at first itself a matter of educational experiment. Some believe in special psycho-educational experimental laboratories, some believe in special experimental schools, and recently the proposition was made for the appointment of special school psychologists attached to the superintendent's office in large cities. In any case the work has to be done; the psychologist as such cannot do it, and the teacher cannot do it, either. For the psychologist it would be a burden, for the teacher it would be a most serious danger; the student of education alone can do it. Of course even these adjuncts of superintendents, and these principals of experimental schools, must never forget that their work refers always only to the one half, which is misleading without the other half -- to the causal system, which must be harmonized with the teleological one.

Personally I consider the psycho-educational laboratory as the most natural step forward. Such laboratories would be psychophysical laboratories, in which the problems are selected and adjusted from the standpoint of educational interest. All that has been done so far in our psychological laboratories for the study of attention, memory, apperception, imagination, and so on has had, in spite of the seductive titles, almost never anything to do with that part of these functions which is essential for the mental activities in the classroom. While the individual teacher, as we have seen, has to keep away from our psychological laboratories because our attitude is opposed to his, the student of education ought to keep away from us because, in spite of the same attitude, we have too seldom problems which belong to his field. It is a waste of energy to hunt up our chronoscope tables and kymograph records for some little bits of educational information which the psychologist brought forward by chance; sciences cannot live from the chances of work which is intended for other purposes. When in the quiet experimental working place of the psycho-educational scholar, through the steady co-operation of specialists, a real system of acknowledged facts is secured, then the practical attempts of the consulting school psychologist and of the leader of experimental classrooms have a safer basis, and their work will help again the theoretical scholar till the cooperation of all these agents produces a practical education which the teacher will accept without his own experimenting. Then the teacher may learn psychology, to understand

> afterward theoretically the educational theory he is trained in, but he himself has not to make education theory and not to struggle with psychological experiments.[1]

Indeed, the work had to be done. The psychologist, forced to choose problems in the interest of his own discipline, was fully occupied. The teacher, involved in instruction, could not fulfill his practical function if he were to become an observer as well. Before 1900 an understanding of educational problems had been a collection of scraps from other areas of inquiry. The method was to be that of psychology, or more generally, the broad outline of scientific method that Huxley had characterized. It only remained to pick the instrument, psycho-educational laboratories, experimental schools, or school psychologists. All were, to some extent, attempted.

School psychologists, however, gradually became guidance counselors and either practicing psychiatrists or psychotherapists for referral purposes. As the load of practical service increased, the possibility for research disappeared. In turn, the experimental schools struggled with the problem of implementing new programs and gathering data; but since children were not guinea pigs and since devotion to the practical task of teaching commanded more attention, research waned in them too. Thus the instructional staff of experimental schools soon became critic teachers responsible for student-teacher training. Research was left to advanced-degree students who found the university laboratory school

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1. Munsterberg, 1898: 64.

a convenient place to initiate minor controls without going through the formal channels of a public school board. The degree of control instituted during a doctoral study also marked the sole extent to which such experimental schools approached the ideal of the psycho-educational laboratory which Munsterberg advocated.

The laboratory approach to narrowly controlled educational research never developed the possibilities Munsterberg saw for it. The broader field survey, not the psycho-educational laboratory, was the source of the proliferation of data which necessitated cataloguing.

Three-Dimensional Examinations: Looking back across Twenty-Five Years of American Education in the quarter century memorial volume of readings dedicated to Paul Monroe by his former students in 1925, Jessie B. Sears summarized the "Development of Tests and Measurements." Charting the historic stepping stones whereby laboratory research emerged as generalizations useful in teaching practice, Sears mentioned the following key figures:

> One can see Galton's early studies of nature and nurture passing through his own laboratory into that of Cattell, where more evidence and finer methods of measurement were added, and thence to Thorndike, from whom they have issued as generalizations on the technique of instruction and as effectual means of measuring the results of instruction, and later, of the capacity to receive instruction.[1]

Then he went on to trace the rapid development of tests which enabled investigators to gather extensive information in surveys and research projects designed to tap the inexhaustible reservoir of

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1. Sears, 1924: 83.2

data available in the schools. In the following paragraph he provided the chronology of test development progressively expanding the volume of data:

> This idea of mental testing was soon taken up in this country. In the school for subnormal children at Vineland Dr. Henry Goddard introduced the 1905 tests in the latter part of 1908. Later he tested 2000 normal children, and in 1908 prepared a revision of the Binet-Simon scale. A second revision was made by Kuhlman in 1909-12 in connection with his work in the Faribault, Minnesota, school for sub-normal children. In 1912 Terman and Childs revised and extended the scale, and in 1916 the Stanford revision appeared.[1]

Again 1912 stands out as a year of accelerated growth. It was also the middle year for the publication of the first major compendium of educational thought, Monroe's Cyclopedia of Education.

Standardization of Concepts

Paul Monroe, with the assistance of departmental editors and more than one thousand individual contributors, attempted in five volumes to define and explain the major concepts operating in American education at the beginning of the twentieth century. The first two volumes of A Cyclopedia of Education appeared in 1911, the third in 1912, and the last two in 1913. The full Cyclopedia carried 3,655 pages of text and over 7,000 subject entries or topics. The following list of departmental editors reads like a who's who of famous contributors to the improvement of education as a discipline and as a practice:

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[1] Sears, 1924: 83.1

Editors	Positions
1. Elmer E. Brown	Commissioner of Education of the United States
2. Edward F. Buchner	Professor of Education and Philosophy, Johns Hopkins University
3. William H. Burnham	Professor of Pedagogy in the School of Hygiene, Clark University, Worcester
4. Gabriel Compayré	Inspector General of Public Instruction, Paris
5. Ellwood P. Cubberley	Head of Department of Education, Leland Stanford Junior University, Stanford
6. John Dewey	Professor of Philosophy, Columbia University, New York City
7. Charles H. Judd	Director of School of Education, University of Chicago
8. Arthur F. Leach	Charity Commissioner of England
9. J.E.G. De Montmorency	Barrister at Law, London, and Assistant Editor of the *Contemporary Review*
10. Wilhelm Munch	Professor of Pedagogy, University of Berlin
11. Anna Tolman Smith	Specialist, Bureau of Education, Washington, D.C.
12. David Snedden	Commissioner of Education, State of Massachusetts
13. Henry Suzzallo	Professor of Philosophy of Education, Teachers College, Columbia University
14. Foster Watson	Professor of Education, University College of Wales

These departmental editors undertook the evaluative task of distilling a pure body of educational thought. Superfluous and redundant concepts had to be drained off to avoid contamination. Hazy meanings and vague abstraction had to be filtered for maximum clarity. Then the final ingredients had to be arranged for both the scholar and the practitioner. The concept of education as a discipline underwent this exacting critical analysis from several sides, but the two most direct explanations came from Edward H. Cameron and John Dewey under the headings "Experimental Pedagogy" and "Experiment in Education."

Experimental Pedagogy: An Associate Professor of Psychology at Yale University, Edward H. Cameron, offered his explanation in this form:

> Experimental pedagogy, therefore, implies an opposition to a pedagogy of a more theoretical character based upon some philosophical system or preconception of the aim of education, and upon the casual observation of educators.
>
> Although experimental pedagogy follows the lead of psychology in both its methods and its results, it relies also upon results of all the sciences whose facts have significance for education, such as anatomy, physiology, anthropometry, pathology, logic, ethics, and esthetics. It borrows facts from all these fields, but regards them from an entirely different point of view; namely, that of education. It is therefore an independent science. While experimental pedagogy is dependent for its facts to some extent upon all of the sciences mentioned, it is chiefly indebted to investigations of the physical and mental life of the child, such as are afforded by child psychology and physiology, and the pathology and psychopathology of the child. The child thus becomes the object of exact investigation, and pedagogical principles and methods are decided on the basis of scientific observation of their effects upon his training and evelopment.[1]

In keeping with Henmon's thinking of 1912 Cameron's view of education as a discipline is an expanded version of child-study. With the child as the object of exact investigation, the psycho-educational laboratory suggested by Munsterberg would be the ultimate setting for insuring maximum exactitude.

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[1] Cameron, 1911: 11.

Experiment in Education: John Dewey, concerned with both the academic and practical conception of scientific method in the study of educational problems, put the idea of laboratory schools in the context of the kinds of disciplines to be developed. He distinguished between a practical and a scientific discipline in the following way:

> The function of experimentation in education falls into two more or less distinct and more or less over-lapping rubrics: (1) that conducted for practical, and (2) that conducted for scientific purposes. . . . What is needed in order to make this specific and casual type of [practical] experimentation more available for the science of education is (1) more careful and exact observation of the conditions and effects of such changes; and (2) systematic arrangement for the registration and communication of the results obtained. In other words, a large part of this practical experimentation is now scientifically useless because (1) no pains are taken to record the antecedent state of affairs into which the change is introduced, and to isolate the special consequences which follow from its introduction; and because (2) the results are *not recorded* and *published* in such systematic form as to secure cumulative and cooperative results. . . .
>
> Educational experimentation in the narrower sense refers to changes made not so much for the sake of improving specific and detailed results as for the sake of throwing light on some educational problem. These two types of experimentation, however, inevitably blend or shade into each other. . . .
>
> Scientific experimentation must itself be subdivided into two kinds, according as it is more specific or more general: (1) a body of data regarding the observations, the memories, the habit-forming, etc., of school children is already accumulating, through suitable adaptations of the methods of the psychological laboratory. . . . In short laboratory experimentation, or adaptations of the technique of the psychological laboratory, will show what methods in current use are most effective under conventional conditions; they will not test

> the relative worth of the conventionally current type of education as compared with some suggestive reformed type. (2) For the latter purpose, special experimental schools are absolutely indispensable. Their results are less quantitative, seemingly less accurate, and less scientific, just because they are dealing with matters educationally much more important. However, this does not mean that the two types of experimentation are opposed to each other, but that they should supplement each other.[1]

Dewey's distinction between the less rigorous practical experimentation carried on by teachers trying out new methods in the classroom and the exacting requirements of psychological inquiry indicate that the idea of education as a discipline remained open to a wide range of interpretation. As with Monroe, Thorndike, Henmon, Ruediger, and Parker, or with Munsterberg before them, the kind of research to be advocated depended on the kind of discipline anticipated. Dewey saw the need for as broad a range of experiments and observations as could be recorded, with some care to antecedent conditions, and systematically catalogued for cumulative and cooperative understanding.

The Achievement: Published in five volumes from 1911 through 1913, the Cyclopedia was organized in those years which Kandel identified as the twilight of education as a unified discipline. After 1910 the fragmentation of inquiry into numerous areas of specialized study made it impossible for one student to master them all. But those who edited the various departments under Monroe's direction were men who had come to maturity late in the nineteenth century when one man could master much, if not all, of the material

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1. Dewey, 1911: 24.

pertinent to education as a field of study.

Combining practical experience with extensive scholarship many of the departmental editors had figured prominently in generating the very concepts they were distilling for inclusion in the Cyclopedia. Coming at the close of the long epoch of conceptual giants and at the beginning of the new era of fact-gathering worker-bees, Monroe's Cyclopedia crystalized the most important ideas in American educational thought in their purest form at the moment of richest maturity. These five volumes still constitute more than a dictionary of important terms; they are a key to the educational significance of the major philosophic ideas active throughout the nineteenth century. Yet, as a dictionary of key concepts and terms the publication helped strategically to stabilize usage and to clarify meaning in the manner Snedden had wished for in 1905.*

Considered against a background of the primitive state of such social sciences as anthropology and sociology in 1912, the Cyclopedia seems to contain within it the whole of education as an intellectual discipline. Careful in terminology, comprehensive in scope, uncompromising in scholarship the Cyclopedia is a model of what can be accomplished when knowledge about educational ideas takes precedence over how to use them.

By stabilizing the language for talking about education both with regard to the terminology employed and the meaning of complex content Monroe's Cyclopedia cut across the trunk of education as a rational discipline and exposed the rich cross section of content with which it entered the twentieth century.

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*Supra, p. 135

Less spectacular, but of equal importance for the insights it offered into the change that took place in the concept of education as an intellectual discipline, is the longitudinal view of the research and publications of the National Society for the Study of Education made by Guy Whipple a quarter of a century later.

Summary of Longitudinal Research

As a continuation of the National Herbart Society, the NSSSE -- later the NSSE -- published its early yearbooks during the rise of the idea that education as a discipline should resemble the empirical sciences. For a time, as Parker[1] and Henmon[2] implied, talk about a science of education almost took precedence over actual research. In the early yearbooks of the NSSSE, opinion constituted the great bulk of the contents. But with the beginning of widespread psychological testing and the start of the survey movement in 1911, the public schools began to take on an experimental aspect.[3] About the same time, according to Guy Whipple, secretary for the NSSE, that society began to undertake more scientific types of inquiry.[4]

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1. Parker, 1912: 68.5
2. Henmon, 1912: 40.4
3. Buckingham, 1941: 9.
4. Whipple, 1938: 95.1

The Thirty-Seventh Yearbook: The yearbooks of the National Society for the Study of Education provide an excellent longitudinal view of the year-to-year development of important areas of educational opinion, research, and concept formation. In particular, Part Two of the Thirty-Seventh Yearbook of the NSSE, published in 1938, has presented a subject-matter summary of that longitudinal development under the title, "The Scientific Movement in Education." The areas covered and the men responsible for a resumé of the research done are as follows:

Content Areas	Authors
1. School Surveys	C. H. Judd
2. Educational Administration	J. C. Reavis
3. Education of Teachers	E. S. Evenden
4. Curriculum	W. Peik, C. Cushman, G. Fox
5. General Methods	A. I. Gates
6. Special Methods	
6.1 Handwriting	N. Freeman
6.2 Reading	W. S. Gray
6.3 Spelling	E. Horn
6.4 English Usage	E. H. Greene
6.5 Mathematics	G. Bushwell and E. Breslich
6.6 Natural Science	S. R. Powers
6.7 Social Studies	H. E. Wilson
6.8 Practical Arts	J. M. Brewer
6.9 Music and Art	W. L. Uhl
6.10 Home Economics	C. M. Brown
7. Classification, Promotion, and Marking of Pupils	A. O. Heck
8. Individualization of Instruction	S. A. Courtis
9. Discipline and Control	R. Strang
10. Guidance in Education	M. R. Trabue
11. Higher Education	F. J. Kelly
12. General Methods (Contributions of the Society)	G. M. Whipple
12.1 Historical, Comparative Documentary	N. Edwards
12.2 Social Survey and Community Study	C. Marsh
12.3 Statistical Analysis and Comparison	K. J. Halzinger

12.4 Laboratory Experimentation	G. T. Buswell
12.5 Classroom Experimentation	Walter S. Monroe
12.6 Case Study	W. C. Olson
12.7 Educational Diagnosis	L. J. Brueckner
13. Specific Techniques of Investigation	
13.1 Examining and Testing Acquired Knowledge, Skill, and Ability	R. W. Tyler
13.2 Testing Intelligence, Aptitude, and Personality	C. Watson
13.3 Observation, Questionnaire, and Rating	L. V. Koos
14. Scientific Knowledge about	
14.1 Psychology of Learning	J. F. Dashiell
14.2 Individual Differences	F. S. Freeman
14.3 Mental Growth and Development	G. D. Stoddard
14.4 Mental Hygiene	M. Sherman
14.5 Organization of Society and Social Pathology	W. Wallas
14.6 Economics	H. F. Clark
15. Science and Philosophy	
15.1 A Priori Speculation vs. Pragmatic or Empirical Enquiry in Aims	J. Dewey
15.2 Province of Scientific Inquiry	F. N. Freeman

Each item occupied a separate chapter in the book. And, more important, each chapter accorded with Judd's view of a series of separate disciplines. Any connection among the areas of research summarized is either historical or due to common association with a major discipline such as psychology. Further, the great number of areas included as separate disciplines of education in which extensive research had taken place fell in the three areas of quantitative research identified by Ruediger in 1912: method or curriculum, administration, and psychology.

The chapter on "The Contributions of This Society to the Scientific Movement in Education with Special Reference to the Trends in Problems and Methods of Inquiry" done by Whipple provided an excellent longitudinal summary of the stages through which work on providing content for a discipline of education had passed. Grouping the accomplishments of thirty-six years under eighteen categories, Whipple described the first five years of the Society's publications (1901-1906) as "Personal Opinion about General Principles and Theory."[1] Overlapping the first period and extending into the late 1920's, the second he called that of "General Principles and Fundamental Theory Arrived at by Discussion and Pooling of Opinions by Several Persons."[2] Switching from time periods to topical categories, Whipple next listed five categories concerned with specific issues -- appraisal of yearbook content, historical summaries, literary analysis, and the present status of current practice. He concluded with a "Survey of Present Status or Practices on a Comprehensive and Quantified Scale."[3] Therein he noted a change of pace in the research pursued under the idea of education as an independent area of study:

> New machinery is employed -- the questionary, tables of distribution, graphs, and the like. Furthermore, in the best illustrations, the data are used as a basis for comparisons and interpretations that greatly enhance their value. In other words, the survey of present practices is not an end in itself, but a preliminary step to larger undertakings. Take, in illustration, the study of "Industrial Education" (11, I, 1912), which bears the subtitle "Typical Experiments Described and Interpreted," . . .[4]

Among the topics in Whipple's classification of the work of the

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1. Whipple, 1938: 95.2

2. Whipple, 1938: 95.3

3. Whipple, 1938: 95.4

4. Whipple, 1938: 95.4

Society, the one including the quantified survey movement came closest to describing the kind of scientific progress Thorndike had prescribed.

__Whipple's Resumé__: Charting the full range and direction of the Society's work, Whipple offered abbreviated overviews of the eighteen categories into which he had originally classified that work. His summary generalized about the stages through which the Society had gone during its thirty-six years of history:

> (1) a stage characterized by a predominance of individual opinion or of pooled opinion, becoming probably progressively more expert;
>
> (2) a stage characterized by the injection of quantification and featuring assemblages of data in historical summaries, analyses of reports, surveys of practices, outcomes, of questionnaires, and the like;
>
> (3) a stage characterized by insistence upon refinements of statistical method, upon measurements, scales, and standardization, culminating in recipes, practical rules, remedial devices, and numerous instructional and administrative recommendations;
>
> (4) a stage characterized by the appearance of new techniques, like the interview, visitation, the case study, less precise but in a way more comprehensive and more ambitious than the methods of the third stage;
>
> (5) a stage characterized by attempts to formulate objectives more recondite than factual acquisition, to analyze the learning processes for skills, attitudes, and sentiments regarded as potentially teachable, and to lay out the instruction accordingly in a given field of subject matter longitudinally throughout the school grades; e.g., in arithmetic, geography, science; and possibly,
>
> (6) a stage characterized, rather curiously, by a return to a considerable extent, to the approach used in the first stage. . . . it seems to me . . . to be conditioned by the attempt to attack new and broader problems for which at present we lack precise techniques of investigation, in which

> case the resort once more to expression of opinion is just an accident.[1]

Whipple's total view of the scientific study of education resembled a bell-shaped curve extending over a forty-year period which began in 1902. It began on the line of speculation and opinion. During the second decade of the century it rose with the increase and improvement of psychological testing tools and the growth of statistics. Reaching the high point of scientific development in the areas of curriculum or method, administration, and psychology shortly after 1925, it fell back down toward the line as educators began to speculate (1) about problems which could not at that time be tested with the same kind of rigor, or (2) about the virtues of a rational science which provided unity through philosophic deduction.

The separate areas of inquiry on educational problems covered in the Yearbook catalog the major achievements of the measurement and survey movements. Both began and prospered under the belief that the separate areas of inquiry might eventually lead to broad scientific principles and theories that would illuminate the unity just beneath the surface.

Hope of a unified discipline of education worthy of being called a science held out past 1925, but by 1937 it had given way to the belief that the study of educational problems had passed through a stage in which the methods of science had been applied to numerous individual problems. The full extent of insularity of factual information about schooling can be gathered from the 1941 publication of the Encyclopedia of Educational Research. Lacking a conceptual framework the editor could only select topics whose authors typically presented isolated data in a manner which suggested that separate facts ranked equally with meaning-giving concepts.

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[1] Whipple, 1938: 95.5

Separate but Equal Data

Published in 1941 under the editorship of Walter S. Monroe (no relation to Paul Monroe), the Encyclopedia attempted to draw together "a critical evaluation, synthesis, and interpretation of reported studies in the field of education"[1] for the benefit of "students in teacher training institutions, teachers, supervisors, administrators, professors of education, and even interested laymen."[1] Monroe estimated that one hundred thousand studies[1] had to be synthesized into approximately one million words.[1] In the 1,344 pages of text the number of studies reviewed by the 189 contributors came to "several times more than the 7000 actually listed"[2] in the bibliographies.

The Encyclopedia extended the work done by Whipple and the Thirty-Seventh Yearbook into a more comprehensive definition and illustration of the factual dimension of the study of education. Thus in the preface, Monroe made the following statement of the

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1. Monroe, W. S., 1941: 62.1

2. Monroe, W. S., 1941: 62.3

purpose of the work:

> . . . the final list of topics is the product of many influences and represents the results of a persistent attempt to effect a comprehensive outline of the field of educational research. It is, however, doubtless imperfect. At the present time any determination of the boundaries of the field of educational research must be arbitrary. There are no authoritative criteria on which to base decisions regarding how far to go into such related fields such as psychology, statistics, sociology, architecture, and political science. Another difficulty is created by the lack of adequate specification of what constitutes research in the field of education.[1]

Lacking explicit criteria of what constituted research in the field of education, the Encyclopedia itself reflects the implicit standards that had gained wide acceptance by 1940. Monroe and his editors were cautious and careful men. As a field of inquiry, education had suffered numerous accusations from academic quarters. In the past, under the influence of rational science, speculation had run wild in the hands of the Herbartians. The sentimental ramblings of amateur child-study devotees had been even more humiliating. In the organization of course work for the training of teachers, anecdotal comments and *a priori* generalizations still accounted for considerable content.

Monroe and his associates charted a safe course. They included only detailed factual studies -- the more quantified, the better. What they came up with seemed to be quite in line with the kind of research going on in the behavioral sciences generally. What was not so apparent was that such a collection of minute information, lacking a general framework for coherent interrelation

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1. Monroe, W. S., 1941: 62.2

and interpretation, bore a greater resemblance to the accumulation of a million fathom readings by Mississippi riverboat captains than to any careful scientific investigation. Taken without reference to longitude, latitude, time, sun, stars, or fixed position on the shore, some of their facts resembled marks made on the side of the boat, and others were as useful as crosses painted on the water.

In point of fact, the measurement and survey movements produced considerable data quite similar to river fathom readings. First, the primary value of a sounding is that it enables the captain to anticipate how to maneuver his ship through new waters or over a shifting bottom -- such a utility is immediate and practical. Second, a collection of soundings taken with excruciating care for their quantitative accuracy but unrelated to points on shore or in the sky can only suggest possible maximum, minimum, and average depths. Though such a pile of fathom readings offers testimony that many vessels must have sailed successfully from Memphis to New Orleans and back again, they hardly constitute a scientific study of the Mississippi river bottom even if they represent the only data available.

Piled up like fathom readings out of countless log books, the reported research in the Encyclopedia documented the state of education as an intellectual discipline at the close of the pre-World-War II period -- a museum of once useful information largely disassociated from the context to which it had meaning. The social institution of schooling had been divided into separate disciplines for careful sounding, but no one had designed a fixed frame of reference against which to record the meaning of the recorded data. Further, within each sub-discipline, factual information often remained unconnected. The rule was discontinuity.

Fearful of the excesses of theory construction that had marred the past, the only avenue to what passed for scientific objectivity seemed to be the separation of specialties and the equality of facts and concepts. The Encyclopedia catalogued the separate, but equal, state of data and disciplines at the very moment when educators had begun to institute a program of teacher-training designed to force the integration of factual data within a philosophic framework -- the "Foundation of Education."

Contrast of Opposites

The rational science, which filled A Cyclopedia of Education with the major ideas of nineteenth century educational thought, lacked objectively gathered data. The Cyclopedia caught the spirit and content of those vital ideas and offered them a fertile field in which to await the planting of seeds of factual information. In 1912 confidence in the triumph of education as an empirical science seemed assured. It was just such confidence that prompted Bird T. Baldwin, director of educational research at the University of Texas, to declare that the scientific discipline was already an accomplished fact. Responding to Ruediger's article in that same 1912 issue of the School Review Monographs, Baldwin made the following claim that the empirical science of education could and should divest itself of the rational science:

> To recapitulate very briefly: we have come to a stage of development in our field when it is necessary to differentiate between the philosophy of education and the scientific principles of education, since the subject is not merely a critical discussion of facts and principles gathered from other sciences; neither is it merely a profession. It is an empirical science with its own data, its own viewpoint, its own problems and situations, its own history, and its own practices and opportunities for experimentation.[1]

Though Baldwin's claim seemed premature in the context of Henmon's, Ruediger's, and Parker's more conservative positions, the situation twelve years later seemed to confirm his optimism. Writing in 1924 Sears gave the following testimony to the advances in investigation which had captured Baldwin's imagination earlier:

> It would not be correct to say that all this rapid headway has been made without mistakes. A few important controversies have arisen on rather important points; and those who know most about the movement are surest of the tentative character of many of the tests and formulae that have been used widely and with confidence by many workers; but that the movement represents the largest quarter century of work that has ever been done in education, no intelligent person can doubt. The student of statistics may be going too far with some of his theories to suit the mathematician; psychologists may disagree as to just what intelligence is or to just what mental tests measure. . . . Granting all these things, however, we must point to the solid achievement in the way of accomplished reorganization, in the way of available facts about the schools, in the way of a large amount of scientific literature on education, and in the confidence and forward look of the leading men in the field today as the real meaning of the measurement movement in education.[2]

Indeed, the investigation which the Encyclopedia of Educational Research catalogued in alphabetical order offered effective proof of the extent to which factualism failed to improve talk

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1. Baldwin, 1912: 4.

2. Sears, 1924: 83.5

about education. Practice-centered fact gathering dominates each page. The amount of observation-centered research directed toward the immediate aim of knowledge-for-its-own-sake and the long-range goal of increased predictive power remained small because inquiry had seldom been guided by an overall conceptual framework in which the findings turned out to be either part of the large puzzle into which other findings had already been fitted or key pieces in a new puzzle not yet begun. The overall effect of such a disproportionate share of practice-centered factualism is that which might be parts of a large puzzle get lost in a haystack of chopped-up facts; each fact contains the predictive strength of a sample of one, and each fact is different from every other.

The dominance of practice-centered factualism produced an eclecticism of unmanageable, because unimaginable, proportions. The facts neither confirm nor refute any idea, theory, or objective point of view because they were not gathered in relation to a framework of explicit concepts. At best they suggest some possible description of a particular activity. Instead of being the objective investigations on which observation-centered reasoning could be based, they turned out to be the first attempts at making a felt point of view explicit. Far from being facts in the usual sense of the word, they were undefined tokens of a new way of speaking about education -- a way that might eventually lead to a language of objective description.

Viewed as factual research from which the pattern of educational theory should emerge after the pin-points of data had been plotted, factualism failed. Even if the findings of such practice-centered inquiry were given the status of scientific fact, it seems that education lacked the persistence, endurance, and funds to produce a pattern from such curiosity-collecting tactics. The market for sensational guesses always seemed to attract far more attention than the need for carefully qualified statements. The factualism of the measurement and survey movements increased the diversity of talk and the disparity of information to the point where no man could touch all the content and detect any inherent pattern nor imagine with sufficient breadth to conceive a scheme into which it could all be fitted and ordered.

As factual research, the data confounded through contradiction. Only the mechanical systems of library cataloguing or alphabetical arrangements were adequate for comprehensive coverage. Built to include contradiction, such mechanical order was the antithesis of conceptual order since it was imposed independent of meaning. Far from being a first step toward organizing a science of empirical research in education, the mechanical order and conceptual disarray of the Encyclopedia testifies to the diversity of the forty-year exploration for a linguistic passage from subjective impression to objective expression in the discussion of practice-centered problems.

As experimentation in a new way of speaking about education, the practice-centered talk of factualism could be called the prenatal hearbeat of a science of education or the poetic phase of a technical language capable of describing practice in objective terms. Just as hundreds of abortive verses appear for every genuine poem, so also much practical-talk falls short of gaining recognition as being objectively descriptive. Seen as an anthology of practice-centered talk, the Encyclopedia ceases to be a compendium of unmanageable information and becomes an attempt to standardize ways of talking about matters of factual observation. But, since the Encyclopedia was edited with the idea that it was to be a compendium of data, it performs its standardization function quite by accident, and thus proves inferior to the Cyclopedia which preceded it by thirty years.

The Cyclopedia of Education sought to define certain key concepts used in education; and to that end the editors explicitly explained the relationships, contradictions, divergences, and agreements among ways of talking about education. The Cyclopedia is a scholar's map to the known world of educational thought and has the unity of being a work written in the language used by people accustomed to communicating with one another about the very matter they are attempting to explain precisely. Preceding the measurement movement, the Cyclopedia is a book of ideas in which the difference in style among authors remains subordinate to the interchange of thought commonly understood. By contrast, the Encyclopedia of Educational Research collects insular reviews of disconnected practice-centered findings into a volume which defies the distillation of any commonly understood body of ideas yet maintains a certain uniformity in the manner of talking about those findings.

Between the 1913 and the 1941 catalogs, Whipple's 1937 summary plotted the curve whereby the personal opinions of rational science, which lacked factual backing dropped into disuse as the factualism of measurement and survey investigation fragmented talk about education into isolated practice-centered reports. Without the guiding framework of concepts, which only expert personal opinion could have supplied in such early days of factual inquiry, each area of investigation became a bottomless pit absorbing all data without raising the level of understanding.

The Cyclopedia was a first move toward standardizing talk about education on the broadest levels of conceptualization and might have led to the design of a framework within which factual research could have been cumulative in its proof or disproof of a theory of education. The Eycyclopedia has opened the possibility of standardizing descriptive talk about practice in such a way that future factual research might be cumulative because each reported observation could be stated in a known relationship to each other observation. In the sense that it is an exploration into how to describe practice in objective terms capable of comparison with other descriptions from other workers, times, places, and perspectives, it represents a step in the direction pointed by Huxley, Peirce, Royce, James, Dewey, Thorndike, Paul Monroe, Henmon, Ruediger, and Parker. Each of these men looked toward a future when more and more human behavior would be described in the manner of empirical science. The philosophers of a discipline of education among them saw that the key to such a body of theoretical generalizations depended on a language of objective description capable of giving a thorough account of schooling as a major social institution. Narrowly personal accounts of practice useful in explaining methods of instruction and broad speculation about philosophies of life useful in building attitudes toward children had to be distinguished from objective description and observation-centered research. The findings summarized in the Encyclopedia represent a long-term effort to minimize personal and speculative talk and to maximize objective description. It stands as a catalog of accounts of ways of describing practice in more or less objective terms but not as a report of accomplished objective description and observation-centered research. The Encyclopedia is a sourcebook of usage in need of standardization whereas the earlier Cyclopedia is a sourcebook of nineteenth century ideas expressed in the academic language as it had been standardized at the end of that century.

Long before the Encyclopedia reviewed efforts at objective description, however, talk about education felt the impact of practice-centered research designed to improve teacher-training directly. In such separate educational categories as curriculum, administration, guidance, and method anecdotal talk based on present and past experience evolved useful generalizations. Commonsense questions were often answered in the vocabulary of scholarly authority. Speculation about life and about the classroom had been decorated with content from academic authority. This meant that the qualitative difference between two kinds of talk had been obscured, and as a consequence, the distinction between education as an intellectual discipline and as content with which to train practitioners gradually disappeared.

In 1912 Thorndike, Henmon, Ruediger, and Parker anticipated the growth of a discipline dependent on observation-centered reasoning and directed toward the uncompromising pursuit of information about all elements of schooling and the teaching-learning process. They expected the a priori generalizations drawn from personal opinion and past experience, so much in evidence at the time, to atrophy from disuse and blow away. But when the extensive pursuit of factual data failed to yield generalizations which would join the various specialties into the kind of composite science which Judd had forecast in 1918, simplifications and overgeneralizations from psychology began to be mixed with both the anecdotal and the speculative content of teacher-training courses.

All areas of professional preparation repeated the same philosophic disputes as a prelude to the presentation of technical data carefully selected to support a point of view chosen on a priori grounds. While measurement and survey research was conducting experiments in the use of descriptive language teacher-training was absorbing the very vocabulary of that linguistic experiment. All such talk claimed some basis in observation and some status as theory. Talk had become theory regardless of its source, its purpose, its significance, its meaning, or its method.

CHAPTER EIGHT

TALK TAKEN FOR THEORY

In a recent address before the National Educational Association, President Butler of Columbia University said:

> Two generations ago it became patent to the people of this country that more scholarship was not a sufficient preparation for teaching, and schools came into existence whose object it was to prepare teachers by a study of method. That was a desirable, indeed a necessary, reform if the schools were to increase in efficiency beyond the point they had then reached. But I am clear that that movement has now gone too far, and the teachers of method have now become enamoured of method for method's sake. They have forgotten that method is a means and not an end, and their fine-spun analysis and long-continued preparation is like placing a great, huge vestibule before a very small and insignificant house. It makes education wasteful in a very high degree.

Perhaps this is the most general, as well as the most serious, of all the charges brought against the normal school. It is said to be "top-heavy" in theory; that its courses present a great body of theory which does not find concrete embodiment in the normal school itself nor in the actual school work of normal teachers; it wastes its energies in striking the air.[1]

In the first years of the twentieth century speculation about object-method and deduction from Herbartian rational science filled normal school teacher-training programs with vastly more talk than show. Concern for the symbolic and spiritual significance of object-teaching sent thoughts about primary school instruction

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1. Illinois Faculty, 1904: 28.

into the outer-space of metaphysical abstraction. Herbartian deduction showered all parts of secondary school practice with logical fallout. In a program designed for the practical job of training teachers, the term "theory" became an epithet for that talk having the least utility.

Butler and the Illinois faculty declared normal school programs top-heavy with theory in the barren, interim year of 1904, that is, after the rhetoric of rationalism had become senile but before observation-centered reasoning in the measurement and survey movements had reached puberty. Henmon, Ruediger, and Parker had not yet explored the distinction between observation-centered research and practice-centered training as the basis for developing education as an intellectual discipline. Monroe's Cyclopedia, with its standardizing effect on the rhetoric of teacher-training, lay almost a decade in the future. Thorndike's vigorous appeal for careful description before speculation on a limited scale had not been widely anticipated. Education as an intellectual discipline consisted primarily of opinion and self-evident logic aimed at persuading the teacher to conduct practice in certain ways. Educational theory consisted in practice-centered dialectic which was supposed to supplement demonstration, exercise of skill, and observation of children.

By standardizing the preparation of teachers, the method of instruction, and the attitudes of the prospective practitioner the normal schools hoped to establish a minimum level of competence and performance. For this they had two instruments: talk and show.

Practice-teaching, child-study observation, and demonstrations showed the student how to teach and invited him to show his skill and point of view. Talk explained, filled out, and supplemented show. Initially, show had been obviously practical, and talk had been as obviously necessary. As the length of normal school training increased and the amount of show remained constant, the proportion of talk increased.

The distinction between kinds of talk used in normal school training defied precise definition, but the difference between talk and show became so obvious that it raised no questions. In any division of the practical from the impractical, show could be conveniently linked with the former and talk with the latter. Talk about methods, curriculum, administration, the common branches, elementary schools, secondary schools, and institutions of higher learning had absorbed the dialectic which passed as educational theory. Theory compounded theory, and all Butler and the Illinois faculty could see was a talk-heavy curriculum of teacher-training.

Show, Talk, and Rhetoric in the Normal School

Elisha Tiknor suggested the idea of the normal school in 1789.[1] It had a simple conceptual base, namely, that standardizing the methods of instruction and the teacher's command of content should raise the level of performance and assure a respectable minimum. As a social institution, however, the normal school became a crucible in which current ideas were compounded with successful experience to be distributed as a prescription for daily use in the public schools. Analyzing the ingredients of that prescription, J. P. Gordy wrote his book, Rise and Growth of the Normal School in the United States.

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[1] Gordy, 1891: 33.10

Writing in 1891, as the normal school concept reached toward the end of the century peak, Gordy captured the full scope of the institution before it was absorbed in the teacher's college movement and later underwent partial eclipse when universities began to take teacher preparation seriously. Issued by the Government Printing Office, Washington, D.C., Gordy's analysis covered five stages in which the balance between talking and showing gradually shifted toward a dominance of rhetoric. The stages can be categorized as (1) mechanical, (2) exposure, (3) demonstrative, (4) observational, and (5) verbal.

1. Mechanical Stage -- Monitorial Method: The Lancasterian monitorial system produced quick and decisive results against absolute illiteracy. Drill in the skills of reading, figuring, writing, and memorization of content was efficient in a mechanical way. Obedience achieved under a military chain of command reflected the same mechanical solution to the problem of order. Simple in concept, cheap in operation, the monitorial method severely influenced the normal schools which began when that approach to teaching dominated major city systems.

Gordy's criticism focused on two "misconceptions" of the monitorial method which have not yet disappeared from teacher-training:

(1) that teaching consists in imparting knowledge; and (2) that to impart knowledge one need know only as much as is to be imparted.[1] Such a view of teaching as the imparting of information under a mechanical system of memorization, drill, and obedience led to the ultimate of showing over talking. Show the monitor the content he has to learn; show him the chain of command; and show him the product his students must produce. Thus you have trained a teacher. When the normal schools began, their first concern was to provide just such an exposure.

2. Exposure to Common Branches: To make certain that the graduates of normal schools had at least as much command of the subjects they were to teach as monitorial tutors, it was necessary to expose them to the common branches. To avoid competition with the liberal arts colleges and the academies, this exposure took, as Gordy explained, the following form:

> . . . there was quite a unanimity of opinion among the educators of Massachusetts as to the theory upon which the course of study in the normal schools should be based. As their special object was the preparation of teachers for the work of the common schools, they agreed that these schools could best accomplish that object by giving their pupils a special professional knowledge of the subject they were preparing to teach, as well as of pedagogics.[2]

Exposure to the common branches was to be of a special type to provide a professional knowledge of the subjects to be taught. Instead of repeating the exposure they passed through in the public schools, the teacher-trainees were to be confronted with these subjects in their most usable, rather than their most academic, forms. Such a professional organization of content necessitated talk about the teaching of the common branches, talk that would fit well with the other kind of talk about education -- pedagogics. So the pattern went: showing led to professional, practical talk -- practical talk merged with pedagogics, sometimes practical and sometimes not. Pedagogics was theory, and talk about how much pedagogics and professionalized common branches to include become more theory. Educational theory grew geometrically.

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[1] Gordy, 1891: 33.2

[2] Gordy, 1891: 33.4

3. Demonstration -- Practice-Teaching: The program at the Oswego Normal School greatly reduced in two ways the exposure to the common branches. At first, only experienced teachers were admitted to training in the object-method. Their command of the common branches could be taken for granted. Then, the object-method itself was an exposure, a showing of things rather than a talking about academic subject matter.

Teacher-training in the object-method at Oswego, through observation and the demonstration of skill through practice-teaching, carried showing to its peak. The method showed students objects; observation showed prospective teachers how to show students objects; and practice-teaching forced the student teacher to show the critic teacher his skill at showing students objects. Oswego was the center of practical teacher-training.

But showing led to talking, and this led to pedagogics. Practical teacher-training resounded with Froebel's speculations about the symbolic significance of objects. Pestalozzi's talk about the place of affection and acceptance in the classroom, as well as his principles of how mind operates, filled in the spaces between "showings" at Oswego. Before 1880 talk threatened to outdistance showing.

4. Observation of Children: Child-study formalized the observational side of practice-teaching programs. That formalization added two different kinds of talk to the program of the normal schools. The first was a growing body of quasi-scientific data recorded at Worcester Normal School and other carefully conducted child-study centers. The second kind of talk came from the success of these observations on creating an attitude of interest and acceptance of a wider range of child behavior than had been previously considered. Discussing this broadening function of child-study observation, Gordy offered the following personal observation:

> Principal Russell says that his graduates say, after experience in teaching, that they find no feature of their preparatory work more directly beneficial, especially in dealing with exceptional children, than this training in the observation of children.[1]

But this extension of Pestalozzian affection for children brought the emotional effect of observation into the talk about teaching carried on in the normal schools. A "feeling" for children became part of the understanding of them. The heart had to share billing with the head in the discussion of educational problems. It was not enough to have an understanding of how to teach; it had to be accompanied by a desire or attitude that would breed a commitment, if not a dedication. "How teach" was now accompanied by "why teach." And the verbal responses to the latter eventually had to lead in the direction of philosophy.

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[1] Gordy, 1891: 33.7

5. Verbalization: Before the sentimental talk of childhood distorted verbalization about teaching into an emotional mockery of reason, more logical minds introduced many long-standing philosophic questions into normal school training. Showing had led to talking, and talk about teaching could not long avoid deeper issues which scholars and laymen alike had never settled.

Elementary public education had become established throughout the nation by 1880, and secondary education showed all indications of comparable coverage in the near future. Pestalozzi and Froebel had put forth a common-sense view of the learning process which began with the showing of objects. Herbartians, modernizing a trend well established in monitorial practices, favored the "word" over the object as the key to learning and knowledge. Certainly merchants of learning had eventually to face the philosophic issues implicit in defining knowledge. Advocates of a nationwide social institution called universal public education had to formulate their objectives. Value questions inevitably came up in normal school programs. All these aspects of philosophic verbalization about education Gordy found in the program, for example, of the normal school at St. Cloud, Minnesota. Concluding with his own formulation of the purpose of the normal school, Gordy defended such verbalization in these terms:

> In stating the philosophy of method, the natural course is to start from the method and reason back step by step until the facts of consciousness are reached, upon which, in the last analysis, it is reached. In stating the method of philosophy the natural course is to take the opposite direction, starting from the facts of consciousness, to reason step by step until we have found a firm basis for science and the activities of everyday life. Hence, inasmuch as the normal school exists for the purpose of making better teachers; inasmuch as it "is to train teachers in the art of knowing and expressing knowledge, in the art of being, it must, in order to work intelligently, be in possession of the science of knowledge. This fact constitutes it a technical school of university grade, and the highest in a possible series of schools in a system of education, since it assumes to inquire into the very grounds of all forms of knowledge, and must thus bring into review the purposes, processes, and results of all other schools. In a word, it is a school of philosophy.[1]

By just such assertions and counter assertions, the verbalization stage of normal school development flourished. By taking up questions of purpose, knowledge, and valuation on the technical level of philosophy and on the common-sense level of cracker-barrel philosophizing all phases of curriculum, method, and administration acquired a heavy coating of verbalization which gave little evidence of directly practical results. Theory had become quite separate from practical talk in the normal schools; and Butler, among others, lamented the heavy proportion of the former.

Triumph of Rhetoric

Gordy's account of nineteenth century normal school growth documented the dominance of "talk" over "show" during the period that the first teachers colleges began to develop. His quotation from the charter of the New York College for the Training of Teachers at Albany founded January 12, 1889, captured the emphasis placed on the verbal side of teacher preparation. He cited the following as evidence of the direction soon to be followed by the normal schools:

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[1] Gordy, 1891: 33.11

> . . . that the elements of a secondary education are not to be taught at the proposed college, but are to be required of candidates for admission; that the object of the college will be to give instruction in the history, philosophy, and science of education, in psychology, in the science and art of teaching, and the methods of teaching the various subjects included under that head; that a school of practice and observation will be maintained in connection with the college, and that a course of instruction and practice of not less than two years is to be organized, the completion of which to the satisfaction of the trustees and faculty of the said college may entitle the candidate to the degree of bachelor of pedagogy.[1]

Talk, or theory, had become so important that it received formal recognition in the degree of bachelor of pedagogy. The teachers college, with this degree, became an intermediate step between normal school teacher-training and programs of professional preparation in university departments of pedagogy.

The 1889 Albany charter, Gordy's book of 1891, and the several university departments of pedagogy begun by then all preceded the greatest flowing of educational rhetoric the nineteenth century produced. It issued from the national organizations for the spreading of Herbartian rational science and popular child-study.

Seeing the discipline of education as a rational science, the Herbartians pumped logical deductions into the training program for secondary school teachers then developing. Herbartian philosophic talk proved to be fraught with detailed guidance for the conduct of practice once the rhetoric of conviction made the assumptions acceptable. By contrast, child-study's rhetoric of emotional attachment for children gave elementary school teacher preparation a journalistic flavor. Reminiscence, scraps of information, human interest stories were all brought together to create the right attitude toward children.

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[1] Gordy, 1891: 33.9

From two sides the rhetoric of conviction converged on teacher-training, leaving talk about elementary and secondary education doubly split. Object-method emphasized the primacy of things, while Herbartianism advocated the supremacy of the word in literature and history. In addition, the Herbartians argued for a logical understanding of child behavior through theories like the culture-epoch or apperception. Child-study advanced the belief that an appreciation of children must be felt before it can be understood.

In the presence of controversy rhetoric triumphed; and by 1900, the rhetoric of normal school training was being accompanied by teacher-training programs in colleges and universities. There the tendency was to elevate "talk" over "show."

Search for Quality and Breadth -- University Professional Training

Monitorial programs kept losing tutors faster than they could train good ones. Normal schools began to train teachers at a time when the rapid development of the public schools produced new openings at a frightening rate. Quantity preceded quality in teacher-training before the Civil War. The post-Civil War object-method training program at Oswego held out for quality and got it. That famous normal school produced a good share of the leadership that manned the new normal schools seeking a balance between rapid preparation in the face of expanded western demand and the quality they had been trained to respect. By 1900 the insistence on higher quality of professional preparation had begun to gain noticeable power. Looking into that power struggle from the vantage point of 1932, Jessie M. Pangburn provided the following insight into the supply-demand problem in her book, The Evolution of the American Teachers College:

> There was always a supply of teachers of a sort. The shortage was in the ranks of the professionally trained teacher. The number of persons untrained or partially trained, though legally certified and available for manning the schools, was more than sufficient to fill the positions, and the result was a "competition of the unprepared" which kept wages low and tended to retard educational progress.[1]

As the institutions of teacher preparation made consistent gains in the quality of talking and showing during the nineteenth century, the standard or ideal of professional training rose up to orbit around those programs at untouchable altitudes. Plotting the ideal of 1897, J. J. Findlay set the following goal for those involved in the training of teachers:

> I desire to indicate, not so much to specialists in pedagogy, as to teachers and administrators who are interested in training colleges, how large is the field of investigation which the study of education opens up. He who would serve the whole of it must be a psychologist and physiologist, and at the same time he must understand the problems of local

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1. Pangburn, 1932: 67.1

> and national politics. His acquaintance with the various branches of science and art must be thorough enough to enable him to philosophize upon their nature and their functions. And, in order to make his knowledge fruitful, he must have gained a practical experience of the life and ways of the child and of the school society.[1]

Findlay invited the trainer of teachers to philosophize about almost everything in the name of education. Butler's complaint about normal schools being top heavy with theory suggests that teachers in those schools accepted the invitation but failed to elevate their talk to the levels of either philosophy or pedagogy. Thus the student preparing for a career in teaching suffered. Just how fully he suffered and was excluded from the very institution which might have given him some of the training Findlay recommended inspired Charles De Garmo to write a severe protest.

Professional Handicap: President of Swarthmore College, active founding member of the Herbart Society, student of philosophy and of education, De Garmo in 1892 outlined the serious gap between normal school training and university professional programs:

> No co-ordination of the normal school and the university in the training of teachers now exists. This condition of things is owing chiefly to two causes: first, because normal-school graduates are not admitted to the universities on their diplomas; and second, because the pedagogical work in the universities is not, as usually organized, distinctly different from that of good normal schools. With a total lack of credit on one side and a general lack of educational facility on the other, it is not strange that there should be such a complete disjunction of the two classes of institutions in the training of teachers. . . .
>
> The first idea that came in with the chairs of pedagogy seems to have been that the university should make up to the student

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[1] Findlay, 1897: 30.

> in some degree his lack of normal-school training, so that the first work along these lines was elementary, and not unlike that given in normal schools. Such elementary treatises as Page, Quick, Fitch, Compayré, were freely used. The result has been that to many persons the term "pedagogy" has become synonymous with the contents of these books. So long as university work in pedagogy bears this character, it will contain nothing for the trained normal-school graduate. Furthermore, however strong the personal influence of the professor of pedagogy may be, he has small chance of imbuing men with the spirit of education, of developing in them the pedagogical consciousness in everything they do, so long as their instruction in content-studies like biology, physics, economics, history, is given by men whose standpoint is anything rather than pedagogical. Two changes, therefore, seem to be necessary before any real, desirable co-ordination of normal schools and universities in educational training can take place. First, the pedagogical work of universities must be radically changed; and second, normal-school graduates must be freely admitted to it on their diplomas. . . .
>
> Turning now to the normal-school graduates, we find them excluded from the university as a class, because they have not had the traditional college preparation in languages. After teaching a few years, they wake up to find themselves confronted by a dead wall to further progress, on account of the elementary character of their training, and too old to begin the work that others are doing before the age of sixteen or eighteen. The result is that most of them stop growing, settle down into routine work, or drift off into other callings. Now, if educational departments such as have been indicated can be established, the star of hope once more rises for the normal-school graduate. His facile skill as a teacher, his initial enthusiasm acquired at the normal school, his maturity and his earnestness of purpose, far more than counterbalance any loss he may have suffered from a lack of drill in language. The education department, not being dependent upon linguistic training in its students, or responsible for its absence, may freely and with credit to itself admit normal school graduates to its undergraduate course upon equal terms with those who come to it from lower university classes.[1]

The gap between the minimum practical preparation of the normal schools and the stiff academic requirements for university entrance swallowed precisely those teachers who might approach the

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1. De Garmo, 1892: 19.

professional ideal suggested by Findlay. Further, the failure of university training programs to do more than repeat the elementary content of the normal schools meant that those who did jump the gap to gain university entrance were not receiving the kind of cultural upgrading that other areas of that institution could provide. On the one hand, the universities resisted professional education programs; and, on the other, those which admitted them kept the content so impoverished as to pretend they did not exist. This snobbishness toward the superiority of academic training over useful professional content stirred John Dewey to write the following appeal in 1901:

> It is no longer possible to hug complacently the ideal that the academic teacher is perforce devoted to high spiritual ideals, while the doctor, lawyer, and man of business are engaged in the mercenary pursuit of vulgar utilities. But we have hardly reconstructed our theory of the whole matter. Our conception of culture is still tainted with inheritance of the aristocratic seclusion of a leisure class -- leisure meaning relief from participation in the work of a workaday world. Culture, to use the happy phrase of one of my colleagues,* has been prized largely as a means of "invidious distinction." If I were to venture into what might appear to you the metaphysical field, I think I could also show that the current idea of culture belongs to the pre-biological period -- it is a survival of the time when mind was conceived as an independent entity living in an elegant isolation from its environment. . . . It is flat hostility to the ethics of modern life to suppose that there are two different aims of life located on different planes; that the few who are educated are to live on a plane of exclusive and isolated culture, while the many toil below on the level of practical endeavor directed at material commodity. The problem of our modern life is precisely to do away with all the barriers that keep up this division. If the university cannot

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*Dewey and Thorstein Veblen were both members of the University of Chicago staff in 1901.

> accommodate itself to this movement, so much the worse for it. Nay, more; it is doomed to helpless failure unless it does more than accommodate itself; unless it becomes one of the chief agencies for bridging the gap, and bringing about an effective interaction of all callings in society.[1]

Outlining the case for professional training in general, Dewey protested against the same gap that De Garmo had identified eight years earlier. In line with Findlay's appeal for breadth in teacher-training, De Garmo and Dewey insisted that professional educators be given the benefit of cultural learning as well. Each realized that the ideal of the professionally competent practitioner demanded a general as well as a special education. The specialist serving people needed an understanding of the concepts and forces inherent in the past, present, and future of the society he performed in as well as peak proficiency in his specialty. Further, De Garmo and Dewey quickly perceived that the only place such a combination of general and special education could be achieved was in the university.

Dewey's Plan: Dewey had specific suggestions about how the university should go about realizing the ideal of a cultivated and competent teacher. Four years before his outburst against the invidious distinction separating academic and professional learning, he submitted a lengthy plan to William Rainey Harper, President of the University of Chicago. Embodying the essentials of a modern school of education, it amplified several portions of the program outlined for the New York College for the Training of Teachers. Written January 6, 1897, ahead of its time in conception, the proposal was committed unpublished to the archives of the University of Chicago. The plan suggested the following organization of teacher-training:

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[1] Dewey, 1902: 23.

> The various lines of work which are naturally included within the scope of a University Department of Pedagogy may be reduced to a few main heads. We have
>
> 1. What may be termed for convenience, Educational Physics and Physiology, dealing with the whole plant of educational work and the adaptation of that to the physical being and welfare of the pupils.
>
> 2. Educational Sociology which concerns itself with the organization and administration of the educational system, both in relation to other social conditions and institutions and in its own external mechanism and workings.
>
> 3. Educational Psychology which deals with all matters appertaining to the adaptation of the school resources and the subject matter of the curriculum to the child. Its problem is how, out of the plant and school system described above, to get the maximum of result from the standpoint of the individual pupil.
>
> 4. We have the subject matter of general pedagogy occupying itself with the theoretical considerations regarding the nature, ends and aims of educational work and the intellectual organization of curriculum and methods corresponding thereto.
>
> 5. Educational History dealing both with the systems which have actually obtained at various times and in various countries, and also with the development of the theory of education as such.[1]

The fourth main head, general pedagogy, received this additional notice:

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[1] Dewey, 1897: Appendix, pp. 325-326.

> This is the head which receives most attention, and in some cases, exclusive attention, in the existing status of Pedagogy in colleges. It deals with the philosophy of education as such and the question of educational aims and means.[1]

Sensitive to the preponderance of "talk" over "show" in his own plan, Dewey went on to explain the necessity of this:

> In the above nothing has been said about work in the actual training of teachers as it is assumed that for the most part, at least at the outset, the whole stress must be thrown upon the cultural side rather than upon the professional.[2]

The physics, physiology, psychology, sociology, and history of education which Dewey grouped around general pedagogy were the bars of a cage strong enough to restrain the most ferocious Abominable Snowman. Running wild through a normal school curriculum or the content of university education courses, general pedagogy terrorized innocent bystanders like Butler, enslaved the students, and scandalized professional education through indecent exposure. Surrounded by the factual, descriptive content of educational physics, physiology, psychology, sociology, and history, the claims of general pedagogy were checked on all sides by available knowledge. Held within the tight restraints of scholarship, such talk would be forced in the direction of serious philosophy and careful critical reflection. No longer could it jump behind the shadows of rhetoric and speak with the hollow voice which made it seem everywhere at once.

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[1] Dewey, 1897: Appendix, p. 328.

[2] Dewey, 1897: Appendix, p. 329.

Such talk about education as Dewey proposed would be a scholarly, respectable organization of available information for use. Careful reflection upon reliable experience and academic philosophy would be the catalysts by means of which a conceptualist could generate theoretical propositions for consideration by practitioners. This would be a scholarly, respectable kind of general pedagogy which would be continually refined by the feed-back from practitioners who tried to implement the concepts.

The State of Teacher-Training Theory

In the last two decades of the nineteenth century and the first two of the twentieth, the great body of educational theory went under several aliases. Among them, general pedagogy, philosophy of education, educational method, and principles of education were the most frequent titles for such talk about teaching. Complaints about the excess of theory flourished. The infrequent plans to contain that talk within the limits of available information and tame it with the whip of scholarly discipline often had no more effect than Dewey's neglected memo. Nevertheless, though the descriptive content Dewey assigned to his five main heads did not become universally popular, the titles of three of his divisions did. Those popular three aliases for general pedagogy were educational philosophy, educational sociology, and in some respects, educational psychology.

Chaos of Content -- The Principles of Education:

In 1912 Ruediger severely criticized the fact that major universities with departments of education showed no agreement whatever concerning the meaning of courses in one way or another dealing with principles of education. To illustrate his point, in his School Review Monographs article he described abbreviated outlines of the course announcements and catalogue descriptions of twenty-five major institutions. The institutions he cited were Chicago, Cincinnati, Colorado, Columbia, Cornell, George Washington, Harvard, Illinois, Indiana, Iowa, Kansas, Leland Stanford Junior University, Minnesota, Missouri, Nebraska, New York, Ohio State, Peabody College, Pittsburgh, Texas, Virginia, Washington State, Wellesley, Wisconsin, and Yale.

Course titles from these institutions were most frequently "Principles of Education" and "Philosophy of Education"; but "Study of Education" and "Educational Sociology" also appeared. The descriptions of these courses included the following variety of subjects or approaches to education: general problems, history -- in its biological, psychological, sociological, vocational phases -- ethics, methods, hygiene, child-study, religious points of view, brain localization, nervous system, evolution of morals in the race and in the child, play, formal discipline, physical education, evolution, what knowledge is of most worth, appreciation, interest, habituation, problems of social welfare, sociology, psychology, and the basis for a scientific theory of education.

General pedagogical theory, clearly, had spread out to touch the broadest reaches of human knowledge. In its effort to touch everything, it could penetrate nothing. Under different course titles and different university departments of pedagogy the talk in such professional programs duplicated the pattern of half a century's development in the normal schools. Butler complained about it in 1904 with reference to the normal schools. Ruediger documented the cancerous spread of the malady in university departments of education by 1911. Summarizing this condition and the evil consequences which resulted, Ruediger voiced the following familiar criticisms of teacher-training and the state of educational theory:

> Restricting ourselves now to about one-half of the college courses in the principles of education, it appears to be true that all conceivable topics in educational theory are hopelessly intermingled in them. If the title, "Principles of Education," is meant to stand for some definite and coherent phase of educational theory, these outlines of courses certainly do not show it. Apparently this title is still used by many teachers of education as a blanket phrase. Save that the material is educational, no uniform principle of selection is apparent. It would be difficult to find any topic in educational theory that is not included in one or more of these outlines, and the topics of but few of the outlines correspond to any considerable degree. In this list there are apparently as many different courses in respect to content as there are persons giving them. This shows a greater primitiveness in the organization of educational theory, if not the content as well, than one would have reason to expect.
>
> The effect of this heterogeneous array of topics under the title "Principles or Philosophy of Education" (and other educational subjects and even the relation between subjects appear to be little, if any, better) has a number of harmful effects. It serves to disgust more students than many teachers of education realize. The average college student wants something definite; he rightly wants to cover a relatively distinct phase of subject-matter in each study that he pursues, and when he finds himself in a subject that apparently possesses no limiting principles of selection and no logical sequence of topics, he is frankly disgusted.
>
> Now when this student goes to another educational course he is likely to find many of the same topics again treated -- and treated in a primary way -- that he has had in the principles of education. This adds to his disgust, for it not only leaves him bewildered but it wastes his time. Allowing

> for all adequate correlations, it would no doubt still be well within the mark to say that from one-fourth to one-half of the student's time in teachers colleges and departments of education is wasted, and this all through lack of organization. This is undoubtedly the most regrettable result that follows the present chaotic state of educational theory.[1]

Conceived expressly for the purpose of organizing the intellectual content of a discipline of education for use, the educational theory presented in professional courses lacked the primary ingredient, namely, organization. Internal content of courses in general pedagogical theory was disorganized, and such discontinuity prospered within programs of professional preparation in both university departments of education and normal schools. In short, the state of course offerings in principles of education across the full range of major universities in the country can only be described as chaotic.

Such a condition could not have been further from the organization Dewey's plan suggested. Opinion dominated information, persuasion dictated to description, and rhetoric accounted for the bulk of educational theory. Talk indeed took precedence over show, but it was the talk of popular conversation instead of the talk of scholarship. Thus it had the virtue of scope and the vice of disorganization. For depth, it depended upon the quality of experience and insight the talker brought to the classroom rather than upon the product of serious academic reflection. The organization was psychological rather than logical and, as a consequence, ephemeral and subjective rather than cumulative and objective.

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1. Ruediger, 1912: 79.5

Though it is a truism that all theory must be talk -- in the broad sense of thought, spoken or written communication -- it is not nearly so self-evident that all thought, all speech, and all writing on education should be considered theory. The identification of educational theory with all "non-show" aspects of teacher-training and the identification of the study of education with the preparation of practitioners had reduced the idea of education as intellectual discipline to academic and popular ridicule. From this it has never recovered despite achievements in factual research and the useful organization of psychological theory for instructional purposes.

The Beginnings of Order -- Educational Psychology: For his 1912 article in the School Review Monographs, Henmon sent an inquiry "out to some of the larger institutions in which educational psychology was offered."[1] Reporting on the diversity revealed by the almost unanimous returns, he concluded:

> The variation in content of the courses is very great. At least five types of introductory courses, called educational psychology, can be distinguished:
>
> 1. Principles of teaching based on psychology, in which psychological conceptions are applied to educational practice. Concrete and practical problems arising in school work are interpreted in the light of psychological principles.
>
> 2. Psychology of the various school subjects -- an analysis of the mental processes involved in reading, writing, spelling, arithmetic, etc., with the practical applications to teaching.
>
> 3. Selected topics from genetic psychology and child-

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[1] Henmon, 1912: 40.2

> study, with a view to tracing in broad outline the normal mental development from childhood to manhood.
>
> 4. Selected topics from general psychology which are treated in greater detail than in the general courses with specific application to school practice. This course differs from the first type by the greater emphasis on psychological facts than on their application to the art of instruction.
>
> 5. Psychology of learning -- an analysis of the various forms of learning and the factors conditioning the learning process.
>
> This classification is admittedly rough, but indicates that educational psychology obviously means rather different things in the different institutions.[1]

Rough as it might be, Henmon's classification indicated that the educational psychology courses of 1912 were marvelously uniform when compared with the chaos Ruediger exposed in Principles of Education courses. Based on general psychology, equipped with the tools of empirical research and the skills of statistical computation, educational psychology could organize content for application in the classroom and check to see how it worked. Communicating through the more precise technical language of psychology, the talk in educational psychology courses had some claim to being called theory. Of all approaches to organizing content for use educational psychology courses contained the least conversation and the most objective information.

The stability of educational psychology as an area of professional training had come in part from an early emphasis on objective information and the skills for the gathering, as well as interpretation and reporting, of such data. Tracing "The Development of Tests and Measurements" in 1924, Sears pointed to Thorndike's place in the establishment of such scientific skills and understandings as a part of professional training in this way:

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[1] Henmon, 1912: 40.3

> In [1902-03] a Teachers College, Columbia University bulletin announced a course by Professor Thorndike as follows:
>
>> Education (or Psychology) 108--Practicum. The application of psychological and statistical methods to education. The course will deal with means of measurement of physical, mental, and moral qualities, including the abilities involved in the school subjects, and rates of progress in various functions: the treatment of averages; measurement of relationships; *etc*.
>
> It is clear from this announcement that educational measurement, as we now understand it, had at that time become a definite possibility in the mind of Professor Thorndike. In view of the outcome of the work which he thus initiated it seems proper to refer to the year 1902, and to Teachers College, as the time and place of the formal launching of the present movement in educational tests and scales.[1]

Going on to chronicle the appearance of similar courses at Stanford in 1911-12, the University of Chicago in 1912-13, Minnesota in 1915-16, and Indiana University in 1917-18, he concluded with the following summary:

> According to a survey of catalogs for 233 institutions of higher learning (*Journal of Educational Research*, November, 1920) most of the state universities, half of the state normal schools, nearly half of the non-state universities, and a fair number of other types of schools offered courses in educational measurements in the summer of 1920. Educational measurement has thus become a standard course in most departments, schools, and colleges of education.[2]

Such courses in skills of measurement represented a standardized content and product, which other areas of professional training

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1. Sears, 1924: 83.3

2. Sears, 1924: 83.4

could not even approximate. With research distinguished from practitioner preparation, courses in test construction and statistical computation took on a specialized utility in the training of investigators. Talk about how to conduct practice gave way to technical talk and showing of how to conduct investigations of practice. Research in turn produced objective information about practice which could compete successfully with mere opinion or generalization from past personal experience. Under such circumstances course work throughout educational psychology embodied the unity which a concentration on description could provide. Experiments with descriptive talk had been begun.

Alerted to the importance of information in any improvement of talk about education, Henmon suggested a balance of opinion, description, and prediction in educational theory. Principles or philosophy of education would discipline opinion about the aim or ends of schooling. The sciences, especially those of the behavioral group, would describe actual conditions. And educational psychology would predict and verify the means or methods by which the aims could be most efficiently achieved.[1]

As the school became a major and comprehensive social institution of public welfare and as the sciences of human behavior began to look at people collectively, what had been said of educational psychology at the close of an era of intense concentration on the individual child began to apply to educational sociology.

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[1] Henmon, 1912: 40.5

Feeling, Fact, and Fiction -- Educational Sociology: In describing the content of courses in the principles or philosophy of education from an examination of the 1911 catalogs of twenty-six major colleges and universities, Ruediger included the following item:

> COLUMBIA, (Suzzalo) 1911. Educational Sociology. A systematic presentation of the relation of education to society, being a special application of modern sociological knowledge to the problems of social welfare as achieved through educational activities. The relation of social conditions to school aims, functions, values, organizations, curricula, and methods will be noted.[1]

Writing in that same year, for publication the next, Ruediger apparently knew his man. Failing to take Suzzalo's course title at face value, he correctly classified the content as philosophy of education. Writing, in 1924, of the past quarter century, William H. Kilpatrick confirmed Ruediger's classification in this statement:

> . . . there came in the first half of our period . . . a pronounced reaction against "metaphysics." One result of this was to lead Professor (now President) Henry Suzzalo in 1909 to propose, in effect, to abandon the name "Philosophy of Education" and substitute instead of that "Educational Sociology."[2]

During the first decade of the twentieth century general pedagogy had been replaced by Principles of Education as a course title. Principles gave way to philosophy. Educational Sociology was only the latest of a long line of title changes by means of which institutions attempted to escape briefly from the reputation of professional dogmatism. Yet the change in title did reflect a change in emphasis. Rational educational psychology had been a philosophy of the individual. The talk included in educational sociology was a rational philosophy of the group and social welfare.

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[1] Ruediger, 1912: 79.4

[2] Kilpatrick, 1924: 49.2

Though different in outlook, object-method and Herbartian rational psychology had helped make nineteenth-century talk about education a reflection of beliefs about the individual. The good citizen of Herbartian moral aims, the culture epoch theory, the growing social science, and the political-economic climate were making twentieth-century talk about education a reflection of progressive social philosophy.

The spirit of this change could not be escaped. In 1917 the Riverside Series of professional textbooks, edited by Elwood P. Cubberley of Stanford University, published W. R. Smith's book called An Introduction to Educational Psychology. Writing more like a lay minister than a scholar, Smith made the following appeal for a dogmatism and indoctrination in the name of social education:

> Education must be emotionalized. Thus to the individual educational end must be added the social end. It is not enough for the individual to know what to do; he must want to do it. Motive must be developed no less than skill. This is inseparable from group training. . . . Moral education requires not only the development of correct ethical insight, but training into moral habits of action. Social education alone can result in proper social reactions. Social habits are as important as individual habits, and they can be acquired only in the social group.[1]

Rhetoric and opinion, at best social philosophy, delivered by men not professionally trained in that discipline filled courses in principles of education, educational philosophy, and after 1911, educational sociology.

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[1] Smith, 1917: 85.

The slow pace of development from dogmatism to description in educational psychology can be gauged from Smith's second book for the Riverside Series. Written eleven years later, in 1928, Principles of Educational Sociology offered the following comments on the status of the field in comparison with educational psychology:

> This psychological bias is evident in all phases of life, but it is particularly strong in the field of education, where applied psychology has made its largest contribution and where sociology is still in the stage of theory rather than that of detailed analysis and experimentation.[1]

In that same year many of the suggestions for the organization of educational sociology gained expression at the meetings and in the yearbooks of the newly formed, and short-lived, National Society for the Study of Educational Sociology. One of the leading voices belonged to David Snedden. In the second yearbook of that society, published in 1928, he proposed a ten-step answer to the question, "What Is Educational Sociology?" The two steps which follow covered the core of his viewpoint:

> A. Sociology is the general science of (usually) human social groups, social relations and processes, social forces, and social functions and values. Some -- perhaps much -- of education and, above all, public education is designed to improve human relations, make human societies more efficient, raise the level of social valuations, strengthen individual men and women for their social functions, and, generally, enhance human welfare.
>
> B. Educational sociology, then, is the assemblage of all the

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[1] Smith, 1928: 86.

> reliable knowledge (including techniques of increasing, ordering, and applying such knowledge) which can be derived from sociology (and its ancillary or member sciences) and which can be used in educational practice as well as in controlled advances in that field of work.[1]

Snedden's hopes for educational sociology used educational psychology as a model. Both should become descriptive, predictive, and experimental. Both could capitalize on the same courses developing measurement and statistical skills for computation. Both should begin with an account of "what is," supplementing one another with individual and social points of view.

Yet, not all educational sociologists were content with describing "what is." In 1932, Willard Waller, associate professor of sociology, Pennsylvania State College, injected a fictional element into the field. In the preface to his popular book, The Sociology of Teaching, he described a new kind of educational sociology:

> But if one is to show the school as it really is, it is not enough to be unprejudiced. It is necessary to achieve some sort of literary realism. I think of this work, therefore, as an adventure in realism. To be realistic, I believe, is simply to be concrete. To be concrete is to present materials in such a way that characters do not lose the qualities of persons, nor situations their intrinsic human reality. Realistic sociology must be concrete. In my own case, this preference for concreteness has led to a relative distrust of statistical method, which has seemed, for my purposes, of little utility. . . . The work is, in one sense, a systematic application of the concepts of sociology and social psychology to the social phenomena of school life. . . . The purpose of the book . . . is to give insight into concrete situations typical of the typical school. . . . Whatever seemed likely to give insight has been included, and all else, however worthwhile in other respects, has been excluded. A certain

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[1] Snedden, 1929: 88.

> amount of fictional material has been included. This must be judged as fiction; it is good fiction, and it is relevant to our point, if it is based upon good insight. A number of atypical cases have been included because of the illustrative value of such material.[1]

Supplanting fact with feeling, Waller sought a "true" educational sociology, superior to the limited findings of science. This would be a description of the way things "really are."

Theory as Talk

Each new area of special educational content had two major battles to fight -- the one for distance, the other for order. As an intellectual discipline, the specialty needed distance or detachment from the demands of immediate usefulness in practical application. In the early stages of development the premature demands for such application forced opinion to masquerade as fact in the clothing of technical terms borrowed from other better established disciplines. Misappropriated without the conceptual content and specific limitations imposed in the parent discipline, such talk about education could only mask an ordinary idea displaying itself as theory and disdaining any reference to jargon.

Liberation from the demands of immediate application would enable factual research to continue with the task of developing a language capable of describing practice in objective terms. Lacking the insight to realize that such data gathering was prescientific experimentation in ways of talking rather than a direct contribution to the objective description of public education as a major social institution, at least full-time attention to the development of knowledge-for-its-own-sake might develop the scholarship capable of improving techniques of reporting. The development of technical concepts and precise terminology could evolve from the careful filtering of a vast quantity of reporting as well as by conscious design. Once given a language effective in describing practice objectively, the task of careful research foreseen by Thorndike could begin systematically.

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[1] Waller, 1932: 93.

As professional training, talk about education needed two kinds of order to become more useful. One involved the internal order of content; the other called for external stability in the content assigned to such categories as principles of education or educational psychology from institution to institution. Ruediger had clearly demonstrated the correctness of the widespread belief that talk about principles of education bore a relationship in name only from university to university. Principles of education, educational philosophy, and general pedagogy were used as synonyms, not because they stood for any common body of content, but because each was sufficiently broad to include anything. Theory in professional training had no concrete referent beyond the fact that it was talk, not show. Theory meant talk, and talk meant theory in university departments of education as well as normal schools and teachers colleges. Such a state of affairs probably contributed considerably to the dismay which Pangburn expressed in 1932 in the following way:

> Differences in quantity and organization of the constituent elements in the curricula of the several schools (normal, college departments of education, and University departments of pedagogy), and the operation of the elective principle have combined to yield a national system of teacher training which is bewildering in its complexity.[1]

The internal organization of content within professionalized disciplines exhibited similar complexity and disarray. Educational sociology compressed the cycle of growth undergone by educational psychology. Beginning as a combination of social philosophy of American life and general pedagogy of group instruction, it mixed speculation with methodology for the practical purpose of socializing instruction. Scholarship of sorts pressed "principles of sociology" into educational services to justify the classroom practices which were to be deduced from them.

Meanwhile, back at the universities efforts were being made to replace speculation and methodology of group instruction with sociological information of a carefully descriptive nature on the one hand and supplemented with the literary flavor of fiction on the other. Educational psychology had moved toward a descriptive stage as a professional area embodying considerable objective content derived from the parent discipline. By 1928 educational sociology was attempting to follow that same path to become a linking science based on an objective science as Dewey had suggested in 1901.

Talk about education used in training teachers was undergoing a considerable change in vocabulary, grammar, and content as the speculation and methodology of rationalism devised as a dialectic ran headlong into the factualism of the measurement and the survey movements (which was in fact an experiment in new ways of talking about practice). Describing the results of that running battle from the time that object-method, Herbartianism, and child-study began it to the point where Dewey was about to begin another major engagement over the sources of a science of education, Cubberley wrote as follows in 1925:

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[1] Pangburn, 1932: 67.2

> The philosophy of the educational process, as we have it in its best expression today, has been a matter of evolution, and the change is as yet by no means complete. During the past half-century the changes have been so rapid that almost every decade has seen the evolution of a new point of view. In consequence there are many teachers in our schools to-day whose work is guided by an outworn educational philosophy. Still more, one finds here and there both entire school systems and teacher-training institutions which are being conducted in accordance with a working philosophy which has been outgrown and discarded by progressive workers elsewhere.[1]

Philosophic talk in course work balanced delicately on changing points of view. With equal tenuousness these hung on the reports of measurement and survey findings soon to be confounded by equally authentic reports made from new and unanticipated points of view. The absence of leading concepts to be tested throughout many investigations left individual reports with little intellectual significance. Gathered with no criteria for separating relevant observations from irrelevant ones, the reports approached being a tourist's impressions on the day he ventured forth without a guide.

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[1] Cubberley, 1925: 16.

In the absence of landmarks to indicate the place from which the observer looked, the reports could not be easily correlated with one another. Under such handicaps, organization of facts for use in teacher-training required the user to supply the ideational content and the significance to be attached to each finding or some collection of them. Organization for use often became personally ordered obsolescence, and the countless experiments in ways of looking and talking implicit in those seemingly contradictory reports went unrecognized.

Educational psychology, educational sociology, and educational philosophy developed at different rates; and within each various stages could be found depending on who had organized it. By 1925 educational psychology had achieved the greatest amount of order and unity as both a linking science for teacher-training and as a research discipline testing theories about how well children learn under certain conditions. In this situation the educational sociologists struggled to follow their psychologist colleagues in minimizing speculation as well as concern for methodology of instruction. As inheritor of the estate of general pedagogy, educational philosophy abounded in dialectic and research in the scholarship of dialectic. The internal and the external organization of these quasi-practical, quasi-research disciplines remained chaotic.

But compared to educational sociology and educational psychology, educational philosophy was the prototype of theory: dialectic served as professional training and scholarship in ideas constituted research. Educational philosophy was all talk, and talk was theory. In speculating about life and instruction, however, educational philosophy became involved in practice-centered talk of questionable utility. In attempting, for example, to translate the reported findings of unguided observers into a linking science for uninformed practitioners, educational philosophy talked in terms of questionable scholarship. It was just such scholarly deficiencies which prompted George Axtelle, professor of educational philosophy at New York University, to write the following comment in the Spring 1956 issue of the Harvard Educational Review: ". . . professors of education are themselves commonly illiterate philosophically, and command little more than the gross oversimplifications they communicate to their students."[1]

Meanwhile educational sociology and educational psychology assumed that the factualism of the measurement-survey movements had provided objective descriptions of practice. Translating these works of unassessed worth into principles to be communicated to practitioners seemed to be the next legitimate step in working toward the science of education which seemed just around the corner. The disputes which arose over which facts should be used and which should be ignored forced the educational course work into the philosophic dispute as to which ways of describing practice were to be considered objective observations. In such disputes the inadequacy of the descriptive language came out accidentally, and the triumph of one kind of description over another proceeded without system. The dispute remained on the level of which facts were to be accepted rather than penetrating to the basic question of what constitutes a language of objective description.

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[1] Axtelle, 1956: 2.

Building the world views of realism, idealism, and instrumentalism through speculation about the nature of reality, educational philosophy turned away from the job of helping the descriptive side of educational sociology and educational psychology evolve an effective language for talking about what is. Controversy over which speculative scheme was best for teachers to believe in obscured the problem of how little was known about the social institution in which they would practice. The mixture of coffee-cup philosophy of life with scholarly dialectic made it seem that such talk about education had taken full account of present operations in descriptive terms and transcended such literal accounts to speak in ideal terms. That such speculation short-cut the task of description escaped notice.

Educational social science was evolving a descriptive language by trial and error while entertaining the belief that it was placing the mortar of theory on the factual bricks of empirical science. Educational philosophy reduced scholarly research to the lowest common denominator of amateur speculation while remaining convinced that utopian talk could build a conceptual framework which would organize the descriptive research of educational social science. And talk about curriculum, administration, and methodology remained randomly eclectic and unaware that the unorganized combination of factualism, speculation, and personal opinion was not educational science. Into this growing chaos stepped John Dewey, determined to set things right by clarifying the meaning of education as a science with a 1929 version of his 1901 distinction between objective, translative, and subjective science.

CHAPTER NINE

BELIEF AS A DISCIPLINE

> The most striking single movement in education of the present decade has been the development of more scientific tests and measurements. At first this brought few problems to the philosophy of education, but more recently two lines of questioning have been raised. The published results of the application of the Army Intelligence Tests to upwards of a million men during the World War have been interpreted by some to call in question the possibility of running society on a democratic basis. . . . As democracy is a perpetual experiment, it would be as unfortunate for anything to lessen interest in equality of opportunity for development as to lower faith in warranted endeavor. That theories of society and programs of action must of course square with the facts no true modern will deny. The philosophy of education must and will take its facts from whatever source they come, but it will insist first that reported facts be real facts and second that no narrow or hasty interpretation of the facts shall determine action. For the time, at any rate, we face in this a serious problem.
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> The other difficulty raised by tests and measurements is more technical. As was inevitable, the measuring of achievement began with the matters that lent themselves best to measuring, which so far has generally meant the more mechanical of educational outcomes. As was further inevitable, these measures have been put to work in the service of accepted theories as to the educative process. The results along both lines have been in many places to hamper a broader and more human type of educative procedure which had begun to grow up in answer to other lines of development. . . . We find in them a conflict between two aspects of education, that having to do with the aims and values and that having to do with means and achievement. Such a conflict according to our conception comes before the philosophy of education.[1]

The talk that passed for theory in teacher-training made university departments of pedagogy, teachers colleges, and normal schools the last academic roosts of the nineteenth century man who philosophized on all of humanity, society, and life. Even while confidence in the findings of the measurements and survey movements continued to rise, teacher-training maintained more intimate contact with the general pedagogy of the past century than with the behavioral sciences of the present one. Paul Monroe's Cyclopedia had made the concepts of rationalism available in authoritative form. But the factualism of contemporary research did little more than inject some information and foster the wholesale absorption of psychological and sociological terminology into course work.

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[1] Kilpatrick, 1924: 49.1

Recast in the vocabulary of psychology and sociology, talk of general pedagogy had been prepared for the injection of social philosophy which World War I, the Russian Revolution, and the 1929 stock market crash shot into the veins of American conversation. Over that same decade the welfare function of the public schools in the United States expanded to the point where education had become a major instrument for the implementation of social ideas. Concurrently the institution of public schooling itself grew so large as to defy objective description with the limited resources being devoted to the task.

By 1930 the issue had become whether education as a research discipline and as talk for professional training would emulate either the tortoise, by attempting the careful observation and description of existent conditions, or the hare, by building speculative utopias of how things should be. As much as the turtle was a realist, starkly literal in his appraisal of the present and his personal limitations, so was the rabbit a romantic who dreamed of a future in ideal terms while largely unaware of his immediate surroundings and limited talents for achieving his dreams. The romantic road to education as an intellectual discipline would prefer imagination of what might be to observation of what is. Such research would be in the literature of the good life and the logic of obligation. The jargon of technical terms used in coffee-cup conversation would have to be replaced with precise, reliable, descriptive terms which could be used with a minimum of ambiguity and vagueness in the reporting of observation as well as the communication of ideas. Such tools of description would permit education to focus on the examination of its present condition as the proper function of both research and training. The sentimental wish for a better world expressed in the vague abstractions of the "intellectual" would have to be transformed into patience with limited information and diligence in the dismissal of overgeneralization.

In the long run the romance of the panoramic vision of future social possibilities won out over the realism of a detailed description of present performance. Replacing the general pedagogy of the nineteenth century, educational philosophy followed the appeal of prescribing what ought to be rather than describing what is. A description of what is must be concrete and quite limited to what investigators have had time to observe, but a prescription of what ought to be is limited only by the powers of imagination.

Dealing in unfettered abstraction, philosophy of education reached out to touch almost everything in its efforts to keep up with the expanded social consciousness developed after 1920. But the only language capable of making quick crossings over the vast reaches of intellectual space included in such theories of education was the conversational talk of conversational philosophy. Just how far such talk would have to stretch without breaking Chapman and Counts delineated in their book of 1924, Principles of Education. Naming the four corners of the intellectual universe that needed charting, they wrote:

> There is particular need today for varied formulation of a philosophy of education -- formulations which, in the light of educational and psychological research, take into account the development of science, the revolution of industry, the rise of democracy, and the integration of the peoples of the world.[1]

Description or Justification in a Discipline

As the rising tide of the measurement movement crossed the descending wave of Herbartian rational science about 1912, confidence in the power the possibilities of an empirical science of education soared. By 1925, as the measurement movement reached the crest of its rapid growth and struggled to maintain a plateau, authors such as Kilpatrick, Chapman, and Counts had begun to revive interest in the rationalistic side of education as a discipline.

The success of research and confidence in an empirical discipline of education had promoted an overconfidence which Francis

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[1] Chapman and Counts, 1924: 12.

E. Peterson summarized in his Philosophies of Education Current in the Preparation of Teachers in the United States. Looking back across that period of self-satisfaction from 1933 he wrote:

> Science became a watchword in education; there was talk of a science of education; and the scientific method was enthusiastically heralded as a veritable panacea of our many educational ills. Increasingly, it came to be regarded as a method which was applicable no matter what the nature of the problem, and capable, in well-nigh every case, of furnishing a solution.[1]

But such intellectual boosterism soon began to sound hollow and then arrogant. Originally the rapid growth of factual information had suggested that education would become first a descriptive science, then a predictive one, and finally a comprehensive discipline. As a descriptive science it would contain careful and complete descriptions of all aspects of present practice. From full description the prediction of effective and efficient teaching methods would be possible. Finally, matured by the validation of prediction, the discipline of education would develop suffusing causal theories.

After 1925, however, it became apparent that most workers underestimated the difficulty of comprehensive description. Impatient with the available factual information, disappointed by the absence of suffusing hypotheses controlling investigation, needing some comprehensive theory on which to base professional training, educators began to look favorably on the rational processes of philosophy of education. In addition, confidence in

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1. Peterson, 1933: 75.1

the growing factual reservoir had led to the aggressive belief that the aims of education must at least be stated in measurable terms and, most profitably, in terms presently measurable if not already measured.

By 1925 the revolution in education as a research discipline had been matched by an older revolution in practice. With an appeal for the handling of things in an atmosphere of affection, object-method had opposed the mechanical drill in memorization and obedience of monitorial training. Child-study had opposed the formality of Herbartian concentration on the moral lessons of history and literature with an attitude of acceptance of wider ranges of behavior in an effort to evoke creative activity and emotional expression. This more human approach to teaching had by 1925 made some inroads on practice in the name of progressive education, but it remained an infant discipline of professional training and even more limited with respect to research.

An empirical discipline of education had hopes of minimizing the a priori assumptions and generalizations from past experience on which Herbartian rationale had constructed deductions which directed practice. But as a discipline of empirical research educational theory would have to follow the collection of observable information and not wander off into philosophic talk about the coming social order and what ought to be. Talk of democratic classrooms, creative expression, and improved social attitudes offered nothing observable for quantitative measurement in the first place, and it spoke of these goals as products to be realized in the future from a new kind of practice. The question of what kind of discipline of education to encourage depended on whether the primary purpose was to be a philosophic justification of a particular new and untried approach to the conduct of practice, or a description of the observable elements of practice. Description would demand logical organization of content and the primary development of subject-matter content into a discipline of education. Justification of practice would breed a psychological organization of content for purposes of persuading practitioners to use certain practices over others and to aim for one set of goals instead of another. Justification of practice implied conviction on the part of the practitioner. Thus the discipline of education would be designed to induce belief to persuade. Justification, belief, and persuasion fall more to the lot of philosophy than of science.

At the same time that the measurement movement began to lose headway as a basis for building a discipline of education, many faculty members of Teachers College, Columbia University, had taken up the leadership of the case for philosophic theory. Chronicling the unity of viewpoint among that philosophy-struck cast of professional educators, Peterson presented the thoughts of Counts, Lepley, and Raup in the following mixture of commentary and quotation:

> We do not discredit science, but merely point out that the scientific method has been carried to extreme and unwarranted lengths, quite beyond the legitimate scope of science as such. Of recent years a reaction has set in; and it is this opposition -- not to science, be it said, but to what are considered the excessive claims made for the scientific method, in education as well as in other fields -- that has become the real point at issue in the controversy represented

by this category: Counts has said on this point:

> . . . Many prominent educators seem even to believe that there is no educational problem which is incapable of objective solution. They contend, moreover, that insistence on the employment of any other method is to waste time and obscure thinking. . . . They consequently demand facts, and yet more facts; . . . They, however, never define very clearly just what they mean by facts, and how facts are to be distinguished from ideas. Because of this distrust of speculation there are great university departments of education in the United States in which no general course in educational philosophy or the general theory of education are offered. The Americans thus hope to make Education an exact science and remove its problem from the realm of dispute.
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> This complete absorption in educational science, however, is beginning to relax. Many able students of the question . . . argue that, while facts are absolutely essential to the solution of an educational problem, the same facts with different sets of values lead to different solutions. In other words, they maintain that the facts must be brought into harmony with some theory of what is good and beautiful, and must be definitely related to some particular order of society.

It is herein held that there is no inherent conflict between science and philosophy. . . . Lepley set forth the similarities and differences between the two methods, with a division-of-labor relationship referred to above when he said:

> . . . Philosophy is thus concerned more exclusively with a criticism, theoretical constructions, interpretation, and suggestion. . . .

It is not an outright objection to science which is the crux of this category. Essentially, it is an emphasis upon the need of recognizing certain limitations of the scientific method, and there are large areas in the realm of human phenomena in which objective procedures are not applicable. . . .

Raup stresses the importance of developing further what he terms "the wider range of thought." Raup said:

> . . . We have been trying to crowd the whole of vital human thought through the cold and cramped channels of the method of exact science. . . . We are coming to realize that human thought eventually forges out its beliefs and decisions, not in the coolers of exact science,

> but in the crucible of vital, interacting human desires and preferences.[1]

Science in a Discipline of Education

Quite contrary to Raup, Counts, Kilpatrick, and Lepley, the philosophers of a science of education who wrote for the School Review Monographs of 1911 and 1912 had foreseen a different future. Monroe, Thorndike, Ruediger, Henmon, and Parker helped distinguish between the findings of observational and experimental research as opposed to the a priori assumptions and generalizations from past experience organized to provide rational support for successful or preferred practice. The older rational philosophy or science had been displaced by the new empiricism. In Monroe's Cyclopedia of those same years, John Dewey spoke of two kinds of experimentation native to that new science holding out hope for an improved discipline of education: (1) "that conducted for practical, and (2) that conducted for scientific purposes."[2]

Dewey welded those two approaches to experimentation into a new approach to the idea of a discipline of education in his 1929 book The Sources of a Science of Education. This book offered considerable guidance to Teachers College faculty members and helped strategically to shape the idea of the foundations approach to a professional discipline of education.

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1. Peterson, 1933: 75.2

2. Dewey, 1911: 24.

Before writing his 1929 book, however, Dewey wrote an article in 1928 which amplified his idea of the practical nature of educational research and the philosophic nature of the intellectual content of a discipline of education. The article, "Progressive Education and the Science of Education," supplements the book; and together they provide the basic rationale for replacing the idea of an empirical science of education with the concept of foundational fields.

Encouraging the Amateur Researcher: By 1928 the spread of progressive practices had been well facilitated by the journals, professional organizations, some normal school, college, and university training programs, and general occupational gossip. It was just such a state of affairs which prompted Dewey to ask the following rhetorical questions in his 1928 article:

> Can we be content if from the various progressive schools there emanate suggestions which radiate to other schools to enliven and vitalize their work; or should we demand that out of the cooperative undertakings of the various schools a coherent body of educational principles shall gradually emerge as a distinctive contribution to the theory of education?[1]

Affirming the desirability of a distinctive contribution to the theory of education, Dewey calculated that the starting point of that contribution lay in the generalities which all programs of progressive practice had in common. He catalogued those common elements of practice in this manner:

> All of the [progressive] schools . . . exhibit as compared with traditional schools, a common emphasis upon respect

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[1] Dewey, 1928: 25.1

> for individuality and for increased freedom; a common disposition to build upon the nature and experience of the boys and girls that come to them, instead of imposing from without external subject matter and standards. They all display a certain atmosphere of informality, because experience has proved that formalization is hostile to genuine mental activity and to sincere emotional expression and growth. Emphasis upon activity as distinct from passivity is one of the common factors. And again, I assume that there is in all of these schools a common unusual attention to the human factors, to normal social relations, to communication and intercourse which is like in kind to that which is found in the great world beyond the school doors; that all alike believe that these normal human contacts of child with child and of child with teacher are of supreme educational importance, and that all alike disbelieve in those artificial personal relations which have been the chief factor in isolation of schools from life. So much at least of common spirit and purpose we may assume to exist. And in so far, we already have the elements of a distinctive contribution to the body of educational theory: respect for individual capacities, interests and experience; enough external freedom and informality at least to enable teachers to become acquinted with children as they really are; respect for self-initiated and self-conducted learning; respect for activity as the stimulus and centre of learning; and perhaps above all, belief in social contact, communication, and cooperation upon a normal human plane as all-enveloping medium.[1]

Recognizing that such qualities do not lend themselves easily to quantitative measurement in the manner of achievement testing, Dewey affirmed his belief that in the long run the careful observation of qualities had more to offer. He made his case for such a clinical science of education in the following way:

> . . . quality of activity and of consequence is more important for the teacher than any quantitative element. If this fact prevents the development of a certain kind of science it may be unfortunate. But the educator cannot sit down and wait till there are methods by which quality may be reduced to quantity; he must operate here and now. If he can organize his qualitative processes and results into some connected intellectual form, he is really advancing scientific method much

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[1] Dewey, 1928: 25.2

> more than if, ignoring what is actually most important, he devotes his energies to such unimportant by-products as may now be measured.[1]

Anticipating objections, he further stated:

> Whether this be called science or philosophy of education, I for one, care little. . . .[2]

Dewey was concerned with the careful collection of clinical observations on the qualitative factors of classroom practice in public schools. He expressed his recognition of the difficulty and the value of such a body of content when he wrote:

> A series of constantly multiplying careful reports on conditions which experience has shown in actual cases to be favorable and unfavorable to learning would revolutionize the whole subject of method. This problem is complex and difficult. Learning involves, as just said, at least three factors: knowledge, skill, and character. Each of these must be studied. It requires judgment and art to select from the total circumstances of a case just what elements are the causal conditions of learning, which are influential, and which are secondary or irrelevant. It requires candor and sincerity to keep track of failures as well as successes and to estimate the relative degree of success obtained. It requires trained and acute observation to note the indications of progress in learning, and even more to detect their causes -- a much more highly skilled kind of observation than is needed to note the results of mechanically applied tests. Yet the progress of a science of education depends upon the systematic accumulation of just this sort of material. Solution of the problem of discovering the causes of learning is an endless process. But no advance will be made in the solution till a start is made, and the freer and more experimental character of progressive schools places the responsibility for making the start squarely upon them.[3]

Teachers in the progressive schools must, in addition to their

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1. Dewey, 1928: 25.3

2. Dewey, 1928: 25.4

3. Dewey, 1928: 25.5

instructional duties, keep a careful and objective mental anecdotal record of all classroom activity. From that record of what activities lead to what results, this teacher should be able to infer the principles in operation and suggest the causes of learning. The work of many such teachers would yield a clinical discipline of education in which the intellectual content would provide reliable information about how to best achieve the qualitative goals of progressive education. Such a discipline might be called educational method, or principles of education, or educational theory, or philosophy of education, or a science of education. Whatever it might be called, it would provide generalizations from successful practical experience. In fact, it would be general pedagogy developed collectively rather than as the opinion of one man or a string of historical authorities.

In Dewey's plan for a clinical discipline of education, the professional practitioner committed fully to the instructional process must have a split vision and hence see it objectively with the third eye of the mind. The practitioner who chose this way to teach because he believed in the qualitative goals it should achieve would be expected to give an unbiased report as to his own professional competence and success and the degree to which the approach of his choice had been successful. Committed to making his program work, he must be critical of its limitations and not overimpressed by its success. Objectivity in such a circumstance is like objectivity in an automobile accident. The more serious the accident, the less chance one has of getting accurate data:

often the drivers can't give an objective view because the limitations of their perspective, guilt, and fear prohibit it. Even an innocent bystander cannot be heavily relied upon. In such a clinical discipline there would be no innocent bystanders; the professional teacher would be an amateur researcher and the classroom a quasi-laboratory situation.

This clinical discipline of education would, however, include research conducted for practical purposes. Though Dewey cared little whether it was called method, principles, theory, science, or philosophy, this 1928 approach to intellectual content amplified the "practical experimentation" he described in his 1912 article in Monroe's Cyclopedia. As amateur inquiry conducted for practical purposes, it would achieve two major results: (1) the principles and theory would be induced from this careful child-study-like observation of behavior, and (2) it would be reported and interpreted by a sympathetic professional practitioner.

Coming from practice, such theory would not be separated from actual classroom instruction. Rather, it would be in part a description and in part a generalization of practice. Made by a sympathetic teacher trying to be as objective as possible, the theory, as well as the practice, would be guided by the same suffusing practical goal. As classroom instruction would be designed to bring about social change, so would such educational theory be designed with the idea of achieving social ends as a basic assumption. Midway through the article Dewey stated the practical goal of both instruction and theory when he wrote:

> If you want schools to perpetuate the present order, with at most an elimination of waste and with such additions as enable it to do better what it is already doing, then one type of intellectual method or "science" is indicated. But if one conceives that a social order different in quality and direction from the present is desirable and that schools should strive to educate with social change in view by producing individuals not complacent about what already exists, and equipped with desires and abilities to assist in transforming it, quite a different method and content is indicated for educational science.[1]

Classroom practice would be directly geared to transforming society. Generalizations from practice would yield a clinical discipline of education capable of providing an intellectual understanding of how to transform society. Such a clinical discipline of education would be like a discipline of psychiatry. Generalizations from clinical psychiatrists about how they change human behavior could be built into an intellectual understanding of practice. In a similar manner, practicing faith healers could produce a clinical discipline of "medicine" -- quite practical and possibly not scientific. Even so, however, a practical clinical discipline of education, such as Dewey appealed for, would have been a substantial improvement over much of the professional training of 1928. This approach has had its greatest success in providing the intellectual content of curriculum, administration, and methods courses.

Discouraging the Professional Researcher: Technical talk about a science of education had passed through an important transition by 1929. The idea achieved prominence as a unified discipline when, before 1900, the Herbartians parlayed systematic order into claims for a complete rational science. A decade later Thorndike pointed up the Herculean but necessary task of description which had to be undertaken as a first step toward the kind of science that Huxley had foreseen for sociology.

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[1] Dewey, 1928: 25.4

In 1912 Parker used the studies of Courtis in arithmetic to show that mature empirical science had arrived in some parts of the study of education. By the time of World War I, Judd could see independent disciplines of education corresponding to the various scientific specialties required for extensive inquiry into the various sectors of the social institution of schooling. And by 1928 efforts were being made by men like Snedden to see that educational sociology would follow its sister specialty, educational psychology, in the direction of becoming a descriptive-predictive discipline having research reciprocity with the parent science.

Technical talk about a science of education had evolved to the point of considering the scientific aspects of the various educational specialties. Non-technical talk had remained static in its confidence of a unified discipline and merely transferred allegiance from Herbartian rational science to Huxlean empirical science. Much of what Dewey had to say in his 1928 article was non-technical talk about a science of education. Such a clinical discipline of education built up by professional teachers, but amateur researchers, would still be more technical than most of what passed as educational theory. Then such improved talk could be called theory, principles, method, philosophy, or science of education. In his 1929 book, however, Dewey concerned himself with technical talk about a science of education, or more precisely, the place of established sciences in the study of education.

In The Sources of a Science of Education Dewey asked two questions: (1) Is there a science of education? and, (2) Can there be a science of education?[1] Before answering "no" to both, he restated the questions in more technical terms this way:

> The question as to the sources of a science of education is, then, to be taken in this sense. What are the ways by means of which the function of education in all its branches and phases -- selection of material for the curriculum, methods of instruction and discipline, organization and administration of schools -- can be conducted with systematic increase of intelligent control and understanding? What are the materials on which we may -- and should -- draw in order that educational activities may become in a less degree products of routing tradition, accident and transitory accidental influences?[2]

Dewey made a two-fold approach to a science of education. First, he proposed to see how public-school practice could be best arranged to provide intelligent understandings. This would be comparable to trying to build a science of physics by organizing the manufacture of automobiles in a way to produce intellectual understanding and also dividends for stockholders. Some understanding of metals and mechanics and economics might emerge, but any discipline developed would hardly resemble physics as science knows it. Second, he wanted to find out what available subject-matter could be put to use to improve instructional practice. Such a science of education must be restricted to the translation and

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1. Dewey, 1929: 26.1

2. Dewey, 1929: 26.2

application of research done elsewhere, as the engineer translates the findings of physics for application in the construction of cars. The translation and application of research to industrial use is the peculiar art of the engineer.

It is in this sense that Dewey stated that in any opposition of science and art, he would have to join those asserting that education is an art.[1] Amplifying this comparison between engineering and education as arts of application, he went on as follows:

> But there is no opposition, although there is a distinction. We must not be misled by words. Engineering is, in actual practice, an art. But it is an art that progressively incorporates more and more science into itself, more of mathematics, physics, and chemistry. It is the kind of art it is precisely because of a content of scientific subject-matter which guides it as a practical operation.[2]

After the manner of medicine and engineering then, educational science must come from a practical and an intellectual source as follows:

> Two conclusions as to the sources of educational science are now before us.
>
> First, educational practices furnish the material that sets the problems of such a science, while sciences already developed to a fair state of maturity are the sources from which material is derived to deal intellectually with those problems. There is no more a special independent science of education than there is of bridge making. Second, material drawn from other sciences furnish the content of educational science when it is focused on the problems that arise in education.[3]

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1. Dewey, 1929: 26.3

2. Dewey, 1929: 26.3

3. Dewey, 1929: 26.7

Classroom practice would act as a source of educational science by exhibiting the problem and testing the solution. Established science would be an intellectual source of the science by providing the subject matter from which a solution could be intellectually devised. Such a process would call for a three-way partnership of practitioner, conceptualist, and scientist. The scientist would build the intellectual content as he has always done. The practitioner would record the problems and the results of testing the solutions proposed, as in Dewey's 1928 article. The middleman conceptualist, familiar with practice and science, would also assist in identifying problems and suggesting what research the scientist might undertake. The middleman's main function, however, would be to propose solutions to practical problems out of his knowledge of science. These he would give to the practitioner for testing.

The classroom practitioner would be like the doctor's patient, full of ailments but also the final evidence of a cure. The middleman conceptualist would resemble the physician, building up a clinical discipline of education. In this way, the intellectual content of education, though not so far along as the content of engineering or medicine, progressively reaches out to include that material from the established sciences which can be understood and put to use. Such symbiotic discipline of education is nourished by translation and exists for application. Like an osmotic filter, it draws in minerals from the sea of facts and passes on those which the organic practice of education needs for growing purposes. Though such symbiotic discipline absorbs facts and can even produce factual material of its own, it does not contain the prerequisites of independent existence. Dewey stated that prerequisite in this way:

> The history of physics proves conclusively that measurements and correlations, no matter how quantitatively exact, cannot yield a science except in connection with general principles which indicate what measurement to conduct and how they are to be interpreted.[1]

In the absence of guiding principles which suggest where to look and what the findings mean, what began as prospecting quickly turned into scrap collecting. Educational research, Dewey implied, consisted in a huge pile of factual scraps picked up in the belief that they might eventually prove useful but, in fact, getting rustier day by day. Scraps do not make a science.

Dealing with what does make a science, Dewey stated the following minimal condition for a science of education:

> This could happen only if some way had been found by which mental or psychological phenomena are capable of statement in terms of units of space, time, motion, and mass. . . . Nor have we as yet any other general hypotheses in the light of which to know what we are measuring and by which we can interpret results, place them in a system and lead on to fruitful indirect measurements. . . . A period of groping is inevitable. But the lack of an intellectually coherent and inclusive system is a positive warning against attributing scientific value to results merely because they are reached by means of recognized techniques borrowed from sciences already established and are capable of being stated in quantitative formulae.[2]

Such an attribution of scientific value to more careful fact-gathering leads to the following error:

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1. Dewey, 1929: 26.4

2. Dewey, 1929: 26.5

> Failure to perceive that educational science has no content of its own leads . . . to a segregation of research which tends to render it futile. The assumption, if only tacit, that educational science has its own peculiar subject-matter results in an isolation which makes the latter a "mystery" in the sense in which the higher crafts were once mysteries. A superficial token of this isolation is found in the development of that peculiar terminology called "pedageese." Segregation also accounts for the tendency . . . to go at educational affairs without a sufficient grounding in the non-educational disciplines that must be drawn upon, and hence to exaggerate minor points in an absurdly one-sided way, and to grasp at some special scientific technique as if its use were a magical guarantee of a scientific product.[1]

Far from the stature of an independent science, a discipline of education can never exceed the quality of the parent disciplines from which it must draw. And, Dewey added, those disciplines exhibit the following characteristics:

> . . . the outstanding fact is that the sciences which must be drawn upon to supply scientific content to the work of the practitioner in education are themselves less mature than those which furnish the intellectual content for engineering. The human sciences that are sources of the scientific content of education -- biology, psychology, and sociology -- for example, are relatively backward compared with mathematics and mechanics.[2]

Added to the difficulties of inheriting information from the relatively undeveloped behavioral sciences, the discipline of education faced the human limitations of translation, interpretation, and communication. The best translation cannot pretend to improve on the intellectual content of the original. All it can hope to do is to be as faithful as possible to the original, carrying over its spirit into the new tongue and capturing its meaning with a

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1. Dewey, 1929: 26.9

2. Dewey, 1929: 26.8

minimum of distortion. But the difficulties of translation made up the simpler half of the problem as Dewey indicated in this summation:

> The net conclusion of our discussion is that the final reality of educational science is not found in books, nor in experimental laboratories, nor in the classrooms where it is taught, but in the minds of those engaged in directing educational activities. Results may be scientific, short of their operative presence in the attitudes and habits of observation, judgment and planning of those engaged in the educative act. But they are not educational science short of this point. They are psychology, sociology, statistics, or whatever.[1] [Italics added.]

Translation alone offered the objective problem of faithfulness to the original. Interpretation of science for improved understanding of the conduct of classroom practice added the problem of reliability. Translation and interpretation could be put into books, but translation and interpretation had to be put into heads to become educational science. They had to be communicated to the minds of practitioners who could -- and it was a short step to "would" -- use them.

To the objective problems of translation and interpretation Dewey added the subjective problems of communication. Faithfulness of translation and reliability of interpretation had to be matched by fidelity of reception and accuracy of understanding. The broadcast had to be understood to complete the communication.

Dewey had not disposed of a science of education so much as he had moved attention away from the idea of an objective discipline to the translation of scientific data into subjective

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[1] Dewey, 1929: 26.6

"attitudes and habits of observation" which would control practice. In short, Dewey proposed belief-centered practice in education as in the professions of medicine and engineering.

In the absence of a research discipline for the objective description of education as a contemporary social institution and a teacher-training program based on such comprehensive factual information, Dewey sought unity in belief which gave meaning to available information. Instead of pointing out how educational research could become a separate and more scientific descriptive discipline, he put the job of careful description off on the established sciences, who, then, as now, directed their attention elsewhere.

Using the facts of established science as fuel to be fed into the furnace of the practitioner's mind, he relied on two factors for the development of a teacher-training discipline: first, he counted on the verbal skills of the middleman conceptualist to offer facts to the mind and to supplement them with the enriching qualities of his own experience and point of view; and second, he relied on the fact that the prospective practitioner was a living, moving person who had been given both direction and momentum by a cultural environment.

Somehow the practitioner would add to the organization and the meaning which the conceptualist had tried to infuse the data with. And both conceptualist and the potential practitioner would supplement one another because they were both a product of the same broad cultural heritage. This was the subjective basis for a unified discipline of teacher-training implicit in Dewey's proposal of 1929.

Four Stages of an Educational Discipline

Dewey's 1928 article suggested that a collection of personal reports about successful progressive practices made by teachers in the field would add a fourth dimension to his objective, translative, and subjective approaches to a discipline of education. The objective stage of dependence on established science for factual information and reliable generalization would remain weak so long as psychology and sociology continued to offer information about education as a by-product of research done in other fields. The translative stage demanded considerable scholarship in the findings of science, and this would infringe on the amount and scope of contact with practice the middleman theorist could achieve. Thus, in effect, Dewey's 1928 article would have provided the conceptualist with a broader view of practice by having practitioners report their observations in much the same manner that child-study observers reported under the Worcester program. Assuming that a language of objective description was available, Dewey concluded that such a growing body of practice-centered reports would supply an intellectual content which would become part of the linking science.

Such reporting would bring the practitioner one step toward becoming a middleman theorist himself, and this would make the transition from objective information to subjective belief an almost uninterrupted flow. The cold facts of science would be mixed with the more personal reports of progressive practitioners, suggesting a framework on which to hang the facts. Tentatively arranged on a framework of reports collected from many practitioners viewing their own activities from roughly the same "progressive" point of view, the loosely arranged body of content would be digested by a middleman theorist and compactly ordered into compelling and communicable talk. Taken as four parts in the process of building a unified discipline of teacher-training, the steps would be as follows:

1. The Objective Stage: The objective stage would be received intact from established science, having as much descriptive accuracy and predictive power as experts in empirical research could supply.

2. The Clinical Stage: In the clinical stage the reports would be made by amateur researchers committed to a general philosophic point of view. These would be introspective reports on particulars of practice made by teachers. Though less objective than the first stage, they would have the advantage of being derived from direct and extensive attention on existent practice.

3. The Translative Stage: Stage three -- translative -- would be a personal distillate of one man's point of view -- a more or less amateur philosophy of education.

4. The Subjective Stage: Finally, the subjective stage would consist in the internal understandings and feelings retained by the practitioner, a personal philosophy, a belief, a feeling, possibly a faith.

In calling the subjective stage the only educational science, Dewey diverted attention away from the development of an intellectual discipline that could be written down or spoken and directed it toward the development of attitudes in practitioners. Attitudes would be directly useful. In place of the homely adage, "Each man needs a faith to live by," Dewey's concern with attitudes substituted the professional expression, "Each teacher needs a philosophy to teach by." Marketing a personal philosophy of education embodied in the disposition of a practitioner, he could afford not to care whether it was called method, principles, theory, science, or philosophy. But following the practice of escaping the connotations of terms associated with past talk and belief, when Dewey's proposal took concrete form, it was called the foundations of education, the topic of the next chapter.

CHAPTER TEN

A MORALISTIC DOCTRINE: FOUNDATIONS OF EDUCATION

> A good singer makes others follow his tune, and a good educator makes others follow his ideal.[1]

As early as 1897 John Dewey set forth his idea that the basic intellectual content for teacher-training should come from established sciences outside the family of educational research disciplines. In his 1897 memo to William Rainey Harper on the organization of a fully equipped department of pedagogy Dewey nominated physiology, biology, psychology, and sociology as likely sources. His 1901 concept of a linking science of education, developed by a conceptualist, placed the full responsibility for the development of primary concepts to be given educational application with the established sciences. The 1928 paper advocating the descriptive reporting of successful progressive practices added the element of clinical research whereby educators would supplement the data of science but in no way supplant it. And finally, in 1929, Dewey reaffirmed his view that education must take its data and intellectual content from outside sources and organize them into their most useful form.

In such an approach to teacher-training the sciences would mine the raw materials, the conceptualist would manufacture processed materials, and the practitioner would build to his own specifications. As raw materials such as lime, clay, iron, and silicon must be processed to make such building materials as cement, brick, steel, and glass, so would the data of science be processed for potential use in the classroom. As the raw materials determine the kinds of processed materials available for building, so do the processed materials influence the kind of structure possible. But in teacher-training, as in manufacture and architecture, the middleman theorist and the practitioner would be invited to experiment with new ways of using old materials. Invention, not careful translation and interpretation, proved to be the underlying motivation in the elaboration of a subjective personal philosophy of education.

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[1] Yutang, 1938: 53.

Dewey wrote The Sources of a Science of Education in 1929 as the factualism of measurement and survey research had begun to lose forward thrust. Pushing against factualism in a head-on collision, Dewey's colleagues at Columbia University had come out against the arrogance of claims that an empirical science of education had all but been realized and that observation-centered reasoning would solve any problems that were, indeed, solvable. That star-spangled staff of philosophy-bent conceptualists at Columbia quickly institutionalized Dewey's plan for removing well-established scientific information and generalizations from teacher-training by making them a pre-requisite which could be taken for granted, and hence gradually omitted.

Where Dewey had foreseen an accomplished personal belief in the mind of a practitioner capable of exercising it in practical situations, the Teachers College program added a note of social obligation. The social foundations of education, assuming a rock-bottom basis in established science on the part of the middleman theorist, set out to accomplish a social belief in the mind of a practitioner determined to exercise it in practice. The subtle shifts from *including* objective science to *taking it for granted*, from *providing* processed materials for a personal belief to supply *those* materials which would insure a particular social belief, from accomplishing a belief that *could* be used to achieving a determination so the belief *would* be used, changed Dewey's subjective discipline or personal philosophy into a subjectively held moralistic doctrine.

Neither Dewey nor his colleagues foresaw that the challenge of speculative invention would crowd out interest in objective description. Yet the taste for generalization tightly circumscribed by observed data is better cultivated in a scholar's study, sound proofed against the clamor for findings of immediate utility, than from a podium in front of practitioners seeking help in the conduct of classroom instruction.

With regard to the established sciences and the objective intellectual content to be gleaned from them, the foundations program resembled an active family too busy to care for its cellar. Eating, sleeping, and entertaining on the main floor, no one thinks of the basement except when it leaks, when it holds an indispensable item in storage, or when the furnace goes out because someone forgot to order fuel. In such a family it might even be possible to raise a generation of grandchildren who never set foot in the cellar yet believed themselves fully acquainted with the whole structure.

Concerned with the social viewpoint to be communicated to practitioners, the Teachers College advocates of the foundations of education raised a generation of talkers who at best took their science second hand. Dewey had designed a foundations concept with the concrete content of observation-centered reasoning as its cellar, but the original specifications of that foundation were constantly being weakened through the steady addition of the loose sands of social philosophy inadequately sifted.

Conversational Origins

In 1896 United States Commissioner of Education W. T. Harris suggested the social foundations point of view when he observed that "education is founded of sociology."[1] And by sociology he meant "the science of civilization; the science of a combination of men into social wholes."[1] Especially in 1896, such a science of civilization would be rational philosophy. The observation and description of tribes and societies had hardly begun. Yet even the logic-centered reasoning of rational philosophy felt the pressures of a growing social awareness in all manner of thought. Psychology had been too long focused on the individual. Social psychology and social philosophy, as well as pedagogy of the group, were attempting to broaden horizons of interest beyond the particular, and often peculiar, youngster on which child-study had focused attention.

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[1] Harris, 1896: 38.

A quarter of a century later social consciences twinged as intellectuals re-examined a system of universal public education that might have contributed to the insularity which left the charter of the League of Nations unratified. And the depression made social consciousness almost a household item.

During the pre- and post-crash years of frenetic prosperity and courageous poverty, the conceptualists on the faculty of Teachers College, Columbia considered the problem of the nation's welfare and the care of its people. In his book, The Foundations of American Education (1947), Harold Rugg recalled that group and the atmosphere in which the basic social philosophy of the Foundations of Education Program was being formed. His recollections took the following form:

> The new study of society launched by Veblen, Turner, et al, was bearing fruit -- in education as well as in government. In the 1930's the new educational organ on the social front was The Social Frontier and the new organization was the John Dewey Society for the Study of Education and the Culture. Both of these new instruments were fashioned by a little nucleus of professors of the social foundations of education at Teachers College. One by one after 1926 I had watched the new members of the group join our staff -- Counts, Childs, Raup, Watson, Brunner, Newlon, Clark, Johnson, Cottrell, and others. As early as 1927 we formed our little Discussion Group around Dr. Kilpatrick as chairman. It served us on the social-educational frontier as Peirce's Metaphysical Club served the young intellegentsia of Cambridge sixty years before and his similar one, those at Hopkins in the '80's. Regularly from 1927 to 1934, intermitently from 1934 to 1938, and again for several years after war began in September,

> 1939, we have held our bimonthly dinner-discussion meeting, canvassed informally, without programs planned in advance, the roots of every phase of our culture. In hundreds of hours of friendly argument we dug to the social foundations of education. Even by 1932 we had become a cohesive group, taking our stand together for the general conception of a welfare state, agreeing fairly closely on the constituents of the democratic principle.[1]

As Rugg here frankly pointed out, the unplanned, informal, after-dinner discussions of philosophy-minded educators formed the real source of the Teachers College foundations program. In place of the document scholarship akin to the objective side of Dewey's sources of intellectual content, the Teachers College group substituted coffe-cup conversation about a welfare state and the principles of American democracy. In comfortable communion with professional peers it would not have been polite to ask for references or analyze utopian speculation for its basis in fact. From 1927 to 1934 that group compounded conversation until a standardized doctrine had begun to emerge and their vocabularies had become almost interchangeable.

In 1934 the first formal offerings in the Foundations of Education appeared. Consonant with the emphasis of the darker days of the depression the offerings were in 1938 re-named Social and Economic Foundations. And in 1943 that was shortened to Social Foundations.[2]

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[1] Rugg, 1947: 80.7

[2] Lawrence, 1951: 51.1

Organizational Beginnings

Further insight into the origin and organization of the foundations program at Columbia has been provided in an informative letter from R. Freeman Butts, presently director of the division of Foundations of Education, Teachers College, Columbia University. Butts responded to an inquiry by Professor Cowley of Stanford. In this letter, dated October 2, 1957, Butts gave the following informal account of the program as he saw it develop from 1935 to the present:

> The origin of the term, I believe, grew out of the social and educational setting of the late 1920's and early 1930's. The two most influential aspects of the setting were (1) the depression and the world-wide economic and social crisis, and (2) the great specialization in professional and liberal arts courses.
>
> (1) The social crisis led to the belief that we needed courses that would deal with social issues and education. Education needed to study the main trends in society, the critical issues that faced society, the ways in which education is affected by these trends and issues, and the role that education could and should play in society. The emphasis was not only upon knowledge of what had happened and was happening but also upon the normative study of what education should do to play its part in solving the social crisis.
>
> (2) Course offerings in most higher institutions had become highly specialized as a result of rapid increases of knowledge and the use of the elective system. The idea thus grew that we needed course offerings and administrative arrangements that would bring several different fields together. This is an interdisciplinary idea. Educators should see society as a whole and see education as a total enterprise in relation to the society and culture.
>
> So foundations courses were designed to overcome the specialization represented by separate courses in the history of education, philosophy of education, psychology of education, sociology of education, comparative education, and educational economics. This effort drew upon the survey or integrated course ideas that were being developed in Contemporary Civilization at Columbia and elsewhere. Some courses were

actually taught by panels of instructors representing different fields. I suppose this reflected the general ferment in college education that was being expressed in such places as the Wisconsin Experimental College, Minnesota General College, etc., etc.

Also, the departmental organization was revised to bring together faculty members who were jointly concerned with the foundations of education. We set up two departments:

(1) The Department of Social and Philosophical Foundations brought together those who were teaching

Sociology of education (We have added anthropology)
Educational economics (We have added political science)
Social psychology
History of education
Comparative education (We have added international ed.)
Philosophy of education (We have added religion)

(2) The Department of Psychological Foundations brought together those who were teaching

Educational psychology
Developmental psychology
Remedial reading and the psychology of school subjects
Tests and measurements
Educational research and statistics
(We have added the "Psychological Services:"

group procedures and development
adjustment and personality
vocational guidance and personnel psychology
counselling psychology (including rehabilitation counselling)
clinical psychology

These two departments were brought together in the Division of Foundations of Education. The directors of the Division have been William H. Kilpatrick, Jesse H. Newlon, George S. Counts, and Arthur I. Gates.

In recent years I believe there has been more emphasis upon the scholarship, research methods, and empirical study represented by the university disciplines and somewhat less upon the crisis outlook and the social or reconstructive role of education.

I have never felt that the term "foundations" has been thought of so much as meaning the underpinnings upon which the superstructure of education is built. I have felt that it has meant rather the basic study of society and human behavior as

> they relate to education in the sense of fundamental or essential. The emphasis is upon the fundamental ideas, concepts, scholarship, and theory essential for understanding and improving practice and techniques.
>
> The term has also had a combination of meanings with respect to professional and liberal or general education. Some think of the foundations as essentially a general education for teachers to give them an understanding of society and human behavior that may have been neglected in their liberal arts education. Others have thought of the foundations as the common corpus of professional knowledge necessary for all educators to have no matter what their specialized task in education may be.
>
> I believe that both of these elements are important, and I like to think of the foundations as the bridge or linkage between the university disciplines of scholarship and the professional training for specialized jobs. It is thus both general and professional. Greater stress upon the foundations of education make the essential difference between an undergraduate normal school and a professional college of education. It also marks the difference between a purely academic graduate school of arts and sciences and a truly graduate school of professional education.

Basic Conception

In 1938, Guy Whipple foresaw the speculative cast of educational thought when he predicted a return to individual and group opinion in the literature of the National Society for the Study of Education. He generously ascribed the return to expressions of opinion to the professional habit of entertaining problems beyond the scope of scientific measurement. The attempt to see society as a whole and to place public education as a key institution within it raised just such issues. But conversation which stretched imagination to suggest a panorama of society-as-a-whole could not slow down to distinguish between prediction currently beyond the reach of measurement and speculation forever beyond the possibility of observation. All questions were met and handled on rationalistic grounds.

Most of the after-dinner conversation which spawned the Social Foundations Program at Columbia passed from the conceptualist to the practitioner without being formally recorded or carefully documented. But one member of the Teachers College staff, Harold Rugg, set out to convert the residue of that talk into an orderly argument. In his book, The Foundations of American Education, published in 1947, Rugg gave his interpretation of the worth, basis, content, and uses of the concepts implicit in those early conversations.

The Ideals: As Dewey had done in 1929, Rugg concluded that there could be no science of education because of the absence of a unique body of primary concepts.[1] Confirming his agreement with Dewey about the nature of the outside sources for the intellectual content of educational thought, Rugg went on to outline his view of the foundations of education in the following way:

> Education is an art and a technology which employs the primary concepts of other bodies of subject matter which are established sciences:
>
> --from physics: energy, the field . . .
> --from biology: growth, integration, individual differences. . .
> --from psychology: experience, the Self, the problem, personality, movement . . .
> --from culture and society: democracy, freedom, control, equality, the sustained yield. . .
> --from esthetics: expressional act, felt-movements, form . . .
>
> On these and other sciences the educationalists, working as

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[1] Rugg, 1947: 80.8

> technologists, can now build a Great School. But shall they aspire also to create a Science of Education? No.[1]

Immediately, however, Rugg's inclusion of aesthetics as an established science suggests both peculiar usage and a departure from Dewey's view of the foundations of education. Dewey had identified the sources of intellectual content as physics, physiology, sociology, psychology, and biology -- factual sciences in the usual sense of the word. In that usual sense aesthetics is classified as philosophy, humanities, or criticism; certainly not as science. It stands in contrast to the literal, factual, observation-centered sciences as a literary discipline in which subjective feeling, rationalized judgment, and a personal point of view combine to yield a unique expression of opinion. With this literary approach to the expression of considered opinion, aesthetics can entertain questions as broad as Tolstoy's "What is art?" This same essay technique could be adapted to the question "What is democracy?" In addition to broadening the sources of content to include such non-scientific kinds of talk such as aesthetics and morality, Rugg also favored the less quantitative sides of psychology and biology.

By 1934 course work in educational psychology harbored most of the informational gains made by the earlier spurt in measurement. By the end of World War II, it had become the teacher-training fortress for whatever remained of observational-descriptive-predictive reasoning from the period of confidence in an empirical

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1. Rugg, 1947: 80.9

science of education. Meanwhile portions of educational sociology had begun to part with its philosophic past, giving the educational social sciences a stability somewhat improved over conditions for principles of education courses in 1912. A foundations program, however, which proposed to deal with society as a whole, the welfare state, and democracy had to get away from the piecemeal, microscopic factualism of literal observation. Social issues had to be approached in the macroscopic manner of literary essays or after-dinner conversation. But the idea of education as an intellectual discipline had just emerged from a period of intense concern for a science of education based on observation-centered reasoning. Consequently, the proposal of a humanistic, logic-centered discipline of education would not have survived just comparison with Herbartian rationalism.

To facilitate a macroscopic approach to social problems Rugg replaced the objective science of Dewey's sources for intellectual content with those aspects of behavioral science which viewed human and social problems in the panoramic terms Whipple had foreseen as the coming trend in educational thought. Rugg proposed just such a substitution in this passage from his book:

> In the generation between the opening of Dewey's Laboratory School and the publication of his Human Nature and Conduct, an experimentalist psychology of intelligence and problem-solving thinking was developed and largely adopted by progressive educators. In the more conservative teacher-education institutions, a much more limited "connectionist" (Thorndike) psychology of habit was made the psychological course of study. In a few schools and colleges a curious mosaic of the two theories was taught. But it could not be said at any time that American education was founded upon a psychology. Such agreement as there was bore down heavily on intelligence, problem-solving thinking, and habit; but throughout

> the half-century the schools and teachers colleges have lacked a psychology; witness the abysmal psychological ignorance of the doctoral candidates in education -- little less than an academic scandal.
>
> And during all this time rich and indispensible, but largely unused, makings of a psychology were available in the work of a score of pioneers from Peirce and James to Allport, Sheldon, and Lewin. In the chapters of my book I have documented five examples:
>
> -The dominant role in the human act of feeling-as-body-response as developed by Peirce, James, Lipps, Watson and others.
>
> -The confirmation of the feeling-as-body-response emphasis from the psychology of esthetics, and the emergence of the concept of "movement" in a new psychology of meaning and expression.
>
> -A psychology of Persons and personality which emphasizes the role of the temperamental traits - from the researches of William Stern, Gordon Allport, and others.
>
> -A "constitutional" psychology in which physique and temperament are primary and intelligence secondary - from seventy-five years of physiological studies.
>
> -The faint suggestion of a field-force-energy psychology emphasizing the role of psychic energies - suggested by Lewin's all too brief work.
>
> All these are organic rather than connectionistic. All stress feeling and body-response and build on the powerful interpretative role of movement.[1]

Each of these "unused makings" of a psychology which Rugg proposed as foundational elements of professional training was an embryonic area of intellectual thought. Quite contrary to the established sciences which Dewey recommended as foundational content, each was the suggestion of an area in which a science might be developed. Dewey had said that the intellectual understanding of educational problems must wait for content to be developed in the established sciences and then to be translated for educational use. Rugg had no intention of waiting for these nascent areas to mature. He proposed that educators lead the way where experts hesitated.

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[1] Rugg, 1947: 80.1

Even so, however, a foundations program based on the content of the new areas of psychology would have preserved the scientific spirit of what Dewey had proposed as an objective source. Just how much of a change in spirit Rugg proposed came out in the following statement:

> One of my major theses is that the design of education requires four foundations -- psychology, sociology, esthetics, and ethics -- not two or three! And a good school cannot be built on a psychology of intelligence, problem solving, and habit alone; its program will fail unless it springs out of the fullest use of feeling and expression.
>
> In this area of the culture also, the lives and work of the Men of the Consensus have documented my thesis. All are expressional artists, irrespective of the special mediums in which they cultivate their scene, and of their academic classifications -- philosophers, psychologists, sociologists, land reconstructionists, architects, painters, poets, dancers, teachers. All employ the creative act. Each one is striving to say what he sees, feels, of life his unique way. . . . To say, moreover, what his people feel, their way . . . and to say it rigorously with form. . . . Thus I have acted on the conviction that it is in the lives and works of productive artists -- not of the pedagogues of art or philosophers of esthetics -- that one finds the educational cues for the creative process. The educator must go to this primary source, for these are the force people. Expressive art is the art of Forces -- of felt-relations -- and the body is the primary instrument of feeling. Thus our findings for the new Esthetics confirm those of the new Psychology. Feeling and body-response are primary.[1]

Feeling and expression -- creative art and intellectual invention, the work of the force people -- would be the ideational and emotional ingredients of a new interpretation of society-as-a-whole and education as one of its major institutions. The foundations would extend across the full range of emotional expression and intellectual understanding by integrating art, aesthetics, and ethics with new movements in the established sciences. Instead of a discipline which lived by translation and transfusion from objective data and observation-centered reasoning, Rugg hoped for the inventive and expressive power to match the creative output of the parent disciplines with an educational original.

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[1] Rugg, 1947: 80.2

The new foundations of education as proposed by Rugg would not be so sober as the basement of bricks from established science as Dewey proposed for the objective stage. Rugg's foundation would be more like a gourmet's continuously renewed soup. Begun with a basic stock drawn from newer trends in the behavioral sciences, enriched with all manner of creative arts, and spiced with aesthetics, ethics, and morality, the soup would be held at an intellectual simmer. Further, replenished with the left-overs of dinner table conversation, it would be cleared each semester by skimming off the residue absorbed by the raw-egg of criticism.

Nourishing as such a potpourri of professional preparation might sometimes be, Rugg's foundations of education lacked the stability of being firmly tied to the objective sections of established science. The original antecedents of Rugg's foundation's concept, like the original stock of a gourmet's soup, would gradually become so diluted that the objective flavor it may have once possessed would be undetectable. Thus gradually the line of descent would grow so complex as to be untraceable. In the development of a new discipline of teacher-training out of a synthesis of all knowledge after the models provided by the men of force (creative artists) translation would have to give way to invention. It was in such a creative sense that Rugg spoke of aesthetics as a science. In that same sense he said of ethics:

> While the makings of a new psychology, sociology, and esthetics are now at hand to serve as foundations for a new education, the building of a new ethics has lagged far behind. The principle of cultural lag was evidenced again, social institutions lagging behind changes in the productive material culture and psychological and moral factors changing even more slowly. . . . We know now that this statement can be made only in the framework of the Structure of Power of the emerging society.[1]

Whatever the "Structure of Power of the emerging society" might be, it would have to resemble the speculation of philosophy more than the predictions of established science. And in building a foundations of education program around such a speculative concept through the synthesis of creative expression from all the arts, the professional educator would once again be an amateur rushing in where experts feared to tread. Not especially trained in the scholarly problems of discipline construction and without broad and extensive internship in the sciences or the creative arts, the worker in Rugg's foundations of education would have to substitute courage for command with the likelihood of producing dogma through arrogance.

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[1] Rugg, 1947: 80.3

Rugg, like Dewey, had expected to find that courage in pioneers on the faculties of the progressive schools. Just as Dewey hoped that practitioners of classroom instruction would help build a clinical discipline of education, Rugg anticipated that forward-looking teachers would supply intellectual leadership in the study of the new foundational disciplines.

A careful look at several schools and faculties in 1942 and 1943 curbed his optimism and brought forth the following lament about the impoverished state of the intellectual and the applied sides of the foundations concept:

> I found no study of that new sociology going on among the faculties of the schools. . . . Much random improvising there was -- but no study of the first principles of esthetics and design. . . . I found no single faculty consciously building a developmental program from the nursery school to adulthood on a psychology of the person. And no faculty systematically studying the new psychology today. . . . A new morals and the vague structure of a new ethics have been evolving in our society, but still are not being utilized in even the best of our schools.[1]

Rugg contended that the activity programs of progressive schools failed to mature into a study of American society because the practitioners directing learning had no view of that society as a whole or even of its major parts.[2] Too busy with administrative and instructional tasks to institute on-the-job study, they needed an opportunity to have achieved such understanding through a professional training program organized around the psychological, social,

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1. Rugg, 1947: 80.5

2. Rugg, 1947: 80.4

aesthetic, and ethical foundations of American civilization and education. But to provide such understandings teacher-training institutions would have to be changed completely. In the following paragraph from his article published in a 1951 issue of *Educational Theory*, Rugg emphatically stated the extensive change needed:

> Our institutions tend to be trade schools rather than centers for the discovery of new ideas. We are concerned with the "know-how" rather than the "know-what." With the formula rather than the First Principle and the equation. Yet the whole history of modern science should teach us that we shall not succeed in producing properly designed and organized teacher-education programs until we first succeed in developing a sound theory of society, of the nature, behavior, and expression of men, as foundations of education. . . . This means that our teacher-education institutions must stamp out their traditional trade-school temper and become centers of ideas.[1]

Teacher-training institutions were not to be centers for traditional ideas translated from established science. Rather, by means of the foundations program they would be centers for the synthesis of all information and creative expression pertinent to the invention of a "sound theory of society, of the nature, behavior, and expression of man."

In effect repeating Gordy's 1891 view of the normal school as a school of philosophy, Rugg called for a social-philosophic core of thought as the heart of professional training. But since even experts in any one of the foundational areas of thought -- psychology, sociology, aesthetics, and ethics -- have found it impossible to generate a theory which commands the degree of unanimity

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1. Rugg, 1951: 81.

achieved by the general Darwinian hypothesis in the biological sciences, this sound theory of society would have to be created by educationists. Yet few professional educationists achieve a philosopher's training in aesthetics and ethics or a scientist's training in psychology and sociology. Even fewer qualify as scholars of all four areas, and shallow are the teams which achieve consensus on such a broad range of ideas. Instead of preparing the way for sound scholarship, Rugg's proposal amounted to an invitation for amateur scholars to continue the coffee-cup conversation and after-dinner philosophy which the Columbia faculty had found so congenial.

The Illinois Social Foundations of Education Program

By 1950 the appeal that Rugg made for a change in teacher preparation had influenced six professional programs, beyond course work at Teachers College, Columbia University. These institutions with foundational programs were the University of Illinois, University of Florida, Ohio State University, San Francisco State College, the teachers college at Troy, Alabama, and Eastern Washington College of Education at Cheney, Washington.[1] The most complete fulfillment of Rugg's idea of a foundation program was carried out by the largely-Columbia-trained staff of the University of Illinois. In 1947, the year of Rugg's publication, the College of Education at the University of Illinois began a reorganizational study of their graduate program. Three years later it put many of Rugg's suggestions to work. The following year, 1951, Archibald W. Anderson, Kenneth D. Benne, Foster McMurray, B. Othanel Smith, and William O. Stanley wrote The Theoretical Foundations of Education as an explanation of the major ideas behind the new program at the University of Illinois.

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[1] Lawrence, 1951: 51.2

Content and Meaning: The actual program described in the booklet could provide "minimum course offerings in only three foundation fields: the historical, philosophical, and social."[1] The report examined a fourth foundational area also, comparative education. A complete program would also include educational aesthetics and educational sociology.[1]

In order to avoid confusion, the authors distinguish between educational sociology and social foundations by defining the former this way:

> Educational Sociology, as a scholarly discipline, applies the methods of sociological study to the institutions of deliberate education, and to the interrelations between educational and other institutions.[1]

They defined social foundations this way:

> Social foundations, as a field, is concerned with those aspects and problems of society which need to be taken into account in determining educational policy, especially as this policy concerns the social role of the school, and in determining broader social policies which affect educational policy.[2]

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[1] Anderson, 1951: 1.2

[2] Anderson, 1951: 1.1

As used in the Illinois program, the term "social foundations" referred to one of the four theoretical foundations -- historical, comparative, philosophic, and social. Together, the Division of Psychological Foundations and the Division of Theoretical Foundations included the full scope of the idea Rugg had put forth for the improvement of teacher preparation. Together, these divisions had the following responsibility:

> . . . the development in teacher training institutions of common viewpoints with respect to the over-all task of public education, common intellectual tools for the analysis of this task, and common commitment to the improvement of the teaching profession.[1]

Designed from Need: The Illinois program exhibited four equal theoretical foundations: historical, comparative, philosophical, and social. The first two were resources for finding out what others did at different times and in different places. But the work of developing a common point of view toward the child, the school, the role of the teacher, and American society would be done in the latter two. Together these four foundations were to satisfy practical, professional, and social needs.

Practical Unity: Arguing that the theoretical foundations should supply the practitioner with an understanding of his function as a teacher, the authors made the following case:

1. Professional education is properly determined by the requirements of the teaching function.[1]
2. No agreement on that function now exists.[1]

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[1] Anderson, 1951: 1.3

> 3. The teaching function should be defined in terms of the development of the child.[1]
>
> 4. Ultimately, the education of the child, or even the way in which the child will be understood, is a function of the conditions, the problems, the beliefs, the aspirations and the ideals of a particular people. Hence, the ends and purposes of education can neither be determined nor understood apart from a study of the culture in which the school is located.[1]

Beginning by defining the ends of education, the Illinois faculty assumed that the understanding of "the conditions, the problems, the beliefs, the aspirations, and the ideals" of the American people had progressed to the point where middleman theorists could formulate similar views of the child, the teacher, the school, and American society that would not be at odds with available description and observation-centered reasoning. This speculative extrapolation of the few limited generalizations which found widespread support in psychology and sociology would set out a point of aim for practitioners -- doubtless a moving target.

Professional Unity: The Illinois authors gave this account of the complexity that specialization in the various divisions of teacher-training had created:

> The teaching profession, like the public, is now segmented both horizontally and vertically. Horizontally, the profession is divided into specialized groups representing subject matter departments and various other types of specialized educational work. Vertically, it is further divided into elementary, secondary, and collegiate levels, accompanied by invidious distinctions in prestige and financial reward. Moreover, vertical segmentation is further complicated by a professional splitting, at each of these levels, into

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[1] Anderson, 1951: 1.4

> administrative and teaching groups with different degrees of status and authority. In a very genuine sense, all these distinctions represent proper and necessary divisions of function. In the absence of a common orientation to the educational task, however, these differentiations in function have often degenerated with narrow and vested interests with limited distorted views of the over-all job of education, and into unfortunate and harmful cleavages in authority and status. This condition has seriously hampered the development of professional unity and of a common professional conception of the educational task.[1]

This absence of professional unity was paralleled by intellectual disunity as well.

Factualism, which took objective-description for granted in the reports of measurement and survey investigations, provided administration with a set of factual studies separate from those in curriculum and guidance. Sometimes different, sometimes contradictory in nature, these studies could not be effectively coordinated to reveal a consistent thread of information throughout the various specialties without such editing as to be an arbitrary selection of findings to support a foredrawn conclusion. Utopian models of the ideal practitioner fashioned on personal experience produced conflict among interpretations of the role to be played by the teacher, the guidance counselor, and the administrator, as well as yielding conflicting stereotypes of each role. As a result of the disparity in what was taken to be factual information, divergence in attitude toward how to perform in practice found encouragement. Such divergence in attitude encouraged splitting educational psychology in two divisions, one for elementary school preparation and one for secondary school preparation, with the question of separate sections in educational psychology for the junior high and the junior college sometimes receiving serious attention.

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[1] Anderson, 1951: 1.3

Social Unity: Need extended beyond the correlation of talk in the various specialties and a comprehension of the teaching function. The need for practical and professional unity of viewpoint made up part of a plenary problem which the authors characterized in this way:

> A confused culture, marked by deep-seated conflicts and tensions, not only means war and internal strife, it means warped and maladjusted personalities. . . .
>
> Education, in the last analysis, is always a form of statesmanship; and never more so than in a period of rapid and profound social change. . . . This fact . . . clearly indicates that the responsibility for the common program of professional education designed for all types of educational workers, without regard for their particular specialty, rests primarily with those disciplines which are usually referred to as the foundations of education.[1]

The program in theoretical foundations would itself be a form of statesmanship which both pioneered in creating professional unity and set standards for others to emulate. Beyond making the University of Illinois College of Education a model to be copied by other teacher-training institutions, the program would be an implicit recommendation for everyone to develop comparable social conceptions to maximize his efficiency in the American experiment. The more important the role and the more famous the player, the more vital the need. And beyond being a model for the prominent

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1. Anderson, 1951: 1.5

and the professional, the Illinois foundations program was a testimony to the future when every student would emerge from the public schools with the benefit of such a unified social belief. That unified social belief would consist of the following parts:

> A grasp of the organic and reciprocal relationships between school and society, and of the major problems created for public education by the present social conditions and conflicts in American society. Centrally, this grasp involves the information, insights and skills required to: (a) appreciate the powerful educative effect of cultural arrangements; (b) analyze the social realities and democratic ideals of our society; (c) confront these two aspects of American life in a sympathetic, but critical and realistic, appraisal of both our institutional structure and our moral evaluations; and (d) use the results of this appreciation, analysis and confrontation in the formulation and testing of an intelligent conception of the social function of public education in America.[1]

Few if any full-time scholars combine a thorough training in the anthropology of American culture with an expert's background in social and moral philosophy, much less being able to test a conception so broad as "the social function of education in America." The people teaching such foundational courses would, moreover, not be full-time experts in anthropology, philosophy, and measurement. Thus, to achieve the projected coverage, conversational speculation would have to take the place of exact scholarship. And the practical, professional, and social unity achieved would be the unity of tent-like speculation rather than bead-like connection. Thus the theoretical foundations would spread a tent of abstractions over the separate disciplines of education.

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[1] Anderson, 1951: 1.6

The kind of unity needed could only be gained, however, by the painful examination of all facts which pretended to be objective reports, not by lumping them indiscriminately under a canvas of abstract verbalism. Each alleged fact would have to be graded for importance and weighed for value and then placed in line with others like a bead about to be strung. That way, the best available reports might be strung by a thread of thought into a theory.

The theoretical foundations spread the tent of rational social philosophy over the separate educational disciplines in the belief that professional unity would result from such a conceptual *tour de force*. But it was not intended to be the intellectual unity of facts strung together in a theory. It was a psychological unity of common attitudes and beliefs as indicated by this statement:

> Up to the present time, however, the most successful use of experimental methods has occurred in the physical sciences. Consequently, many able and sincere persons have identified experimental method exclusively with the canons and techniques employed in these sciences. Obviously, this interpretation of experimental method is too narrow for the present purpose. "Foundations" study involves more than the verification of descriptive principles. It entails . . . the validation of normative rules, the formulation, criticism and reconsideration of educational decisions and policies, and, as an integral part of all these processes, the reconstruction of beliefs and attitudes. There is a serious controversy over the question of whether or not normative principles, including basic ethical principles, can be scientifically verified and established. . . . But there is little room for doubt in the case of the problems of practical judgment. Decision and policy making in education, as in other forms of human endeavor, obviously entail considerations and methods that are not ordinarily included within the pale of science. The same thing may be said of the reconstruction of attitudes and beliefs. The reconstruction of attitudes and beliefs may be -- indeed, in the absence of crass indoctrination, must be -- accompanied and guided by reason and evidence, as policy and decision making may take into account all of the discoverable facts and all of the established scientific generalizations bearing upon the question at issue. But in all

> these cases, the results, and the processes by which these results are reached, are also shaped and influenced by other factors and considerations. The fact is that the formulation of policy, the making of decisions, and the reconstruction of attitudes and beliefs, viewed from the standpoint of the participant, are not exclusively scientific or even intellectual processes.[1]

As the informational source basic to the conceptual job of reconstructing social aims, the data of factualism and the observation-centered reasoning of the measurement movement resembled muted trumpets in a band playing mood music under whose spell decisions would be made. Broad abstractions were the melody. Decision-making and policy-formulation, the Illinois faculty maintained, were best influenced by the total mood created in the foundation courses. Objective data constituted but one instrument and had to follow the tune. The melody-abstractions (general ideals) were the key to the creation of a mood for decision-making. In the following terms the authors explained how the melody functioned:

> . . . the power of general ideals to stir the imagination and the loyalty of men has been fully attested. It is unduly cynical to attribute this power solely to the hypnotic effect of empty but glittering phrases. On the contrary, much of the appeal of ideals is due to the fact that they have embodied genuine human aspirations and desires. And they are the heart of any society. For it is the sense of common ends and standards, together with the feeling of unity and brotherhood created by this sharing of hopes and interests, which transforms a mere population into a living community. The poetic and ritualistic celebration of these pillars of society is natural and important.[2]

Accompanied by the rational content of common-sense logic, general ideals had the power of an emotional charge hidden in connotation. The general ideal was the sugar-coated capsule encasing vitamins which strengthened belief. The "poetic and ritualistic celebration" of such general ideals added to the emotional charge or impact they could generate. Talk designed to change attitudes and reconstruct beliefs contained all the elements of oratory in which what is said means far less than the effect it has on the hearer. An accomplished discipline that must be realized, not in talk, but in the minds of practitioners places its major emphasis on the resulting subjective effect. This effect achieved in the mind was the locus of Dewey's educational science. Attitudes to be reconstructed, beliefs to be inspired are effects to be achieved within people. It was just such subjective, personal, practitioner-centered ends which Brameld set forth in these terms:

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[1] Anderson, 1951: 1.8

[2] Anderson, 1951: 1.7

> We may hope that many young teachers will thus begin their professional careers with the rudiments at least of clear commitment to the "ideal Superego" of the democratic "charter" -- a goal that they can defend because they have reflected seriously upon it, because they have experienced something of its institutional embodiment in their own education, and because they have come to believe that to strive for human freedom will be worth both the hardships and rewards of their chosen life-work.[1] [Italics added.]

The Trend

From Dewey through Brameld the tendency has been to build an emphasis on subjective belief into an instrument for achieving specific personal commitment among practitioners. Accomplished in the mind of the practitioner, Dewey's educational science depended heavily on objective, clinical, and translative stages of preparation. The non-scientific, non-intellectual elements remained minimal. By adding the creative expression of the men of force to the construction of a theory of American society as a whole, viewed in the framework of the struggle for power, Rugg added two ingredients: (1) emotional content and (2) such broad speculation that careful scholarship had to be foresaken for conversational talk which took objective information for granted. In addition, he directed attention to the specific concept of the welfare state and the principles of democracy. The dogmatic nature of the belief to be achieved can be judged from the following assertion by Rugg: ". . . democracy is the only proper government for family, school, community, nation, or world; the people together distill judgment and decisions out of their collective experience."[1] Moving ahead, the Illinois faculty elevated the poetic and the ritualistic celebration of general ideals to a key role in the reconstruction of attitudes and beliefs. They expected through their program to influence decision-making. The objective, clinical, and translative stages of Dewey's foundations concept were vastly subordinate to the particular subjective ends achieved. When little is known about how decisions in accord with democratic principles and a concept of the welfare state are made, there is no difficulty in being generous with all possible means for making them.

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[1] Brameld, 1957: 7.2

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[1] Rugg, 1947: 80.6

Another Voice

The generosity which Rugg and the Illinois faculty displayed toward the content of foundations programs Theodore Brameld amplified in his book, Cultural Foundations of Education, published in 1957. Interested in the use of anthropological information in teacher-training, Brameld expressed his views that virtually all available avenues to influencing belief should be incorporated into foundation courses. In addition to the foundational areas mentioned by Rugg and the Illinois authors, Brameld asked for "the study of the fine arts and applied arts, of the great religions, and of the philosophers as these affect and are affected by the dynamics and patterns of culture."[1]

This combination of the scientific and the poetic, the descriptive, and the emotive was to provide the direction in which attitudes and beliefs fundamental to decision-making were to be reconstructed. Planted in the minds of practitioners certain general ideals would provide unity and consistency in the public schools below the level of consciousness. It would, as Brameld put it, be a subjective commitment to the ideal superego of the democratic charter. By emotional and intellectual means the foundations of education would cultivate belief in a particular social doctrine which prescribed how man should relate to his fellow man. Gentle and general though the prescription might be, restrained and restricted as the emotional and intellectual persuasion might be, the foundation-of-education approach to teacher-training had become oratory for a moralistic doctrine. Social reconstructionism became its most virulent form.

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[1] Brameld, 1957: 7.1

The academic world tends to pride itself on maximizing clear, explicit, intellectual understanding the while analyzing overgeneralizations and dissecting hollow abstractions. By celebrating the poetic and ritualistic side of general ideals, the foundations programs, however, tended to maximize the emotional and unscholarly side of instruction. Such direct pursuit of commitment and belief made the foundational courses resemble a minister's sermons rather than a professor's lectures.

The Inspiration of General Ideals

The foundations approach to teacher-training, impelled by concern for what children, schools, practitioners, and society needed, was future, not present, oriented. A quick glance at the skills exhibited by even competent teaching-technicians convinced such architects of the foundations concept as Rugg that belief inspired by talk, not the technical skill exhibited and practiced through show, held the key to reorganizing instruction, the teaching profession, and ultimately, American society. The sum total of available skills could not hope to achieve the utopian vision that Rugg, the Illinois faculty, and Brameld nursed. Even talk about this vision-to-be-believed-in had to transcend the language of observation since these philosophies of the future dealt with general ideals to be realized.

The difference between such future-oriented teacher-training under the foundations idea and the present-oriented training of an engineer is summed up operationally in the distinction between the view of the teacher as a statesman and of the engineer as a proficient technician. Through the use of objective, descriptive talk and show, the engineer can be trained to be an efficient catalyst in the production of material goods. A Communist or Fascist engineer can still be an expert in the construction of rockets. A contractor can assemble technical talent and be confident that the sum total of skills assembled will be sufficient to put up a bridge that will carry the intended load. The concept of the competent practitioner does not greatly exceed the sum total of a specified set of special skills. Engineering envisioned a technician-practitioner, not an artist-statesman.

Picturing the teacher as an artist-in-statesmanship, the foundations program had to concentrate on cultivating temperament on top of technical skill. Technical competence had to be capped with the feelings, beliefs, attitudes, and emotional commitment which enabled specialized ability to rise above itself and to reach for a new integration of understanding and performance that is more than the sum total of what has come before -- that is, creative. The foundations program was built to provide an internal something which could not be made explicit through talk or show but which would dispose the practitioner to act in a preferred manner.

Such poetic talk capable of influencing right action thus amounted to a modern teacher-training application of the Herbartian belief that exposure to literature was an important way to produce right-minded and right-willed citizens. And only through such poetic talk could a theory of American society as a whole, the child, the teacher, the school, the family, and the community be developed and put together into a unified doctrine. The sum total of objective information available could not come near such scope. The sum total of technical-teaching skills available would not add up to the ideal practitioner motivated by such a doctrine. The artist-statesman-teacher had to be inspired to be artful, to be committed to a particular social doctrine in order to be statesmanlike, and to be skilled to organize the technical details of instruction so that the two qualities of temperament could be focused on the student.

A utopian vision that the artist-statesman-teacher presumably needed so badly, consisted of more than the sum total of skills which could be shown. It would be easier to identify such a savior-like teacher in retrospect than to recognize him before he performed his miracles. But, clearly, whoever would be such a savior must be inspired. In a similar manner, the view of American society-as-a-whole and the doctrine of democracy consisted of more than the sum total of objective, clinical, and translative talk that could be based on a mixture of descriptive science and reports of practical experiences. The concept of democracy is like the concept of heaven in that people will agree on its importance, its worth, the possibility of attaining it, the necessity of attaining it, and even how to gain it before they can describe what it is. But, clearly, whoever would attain it must believe in democracy.

By mixing poetic expression with objective description, the foundations program hoped to maximize potential for somehow achieving inspiration and belief while holding distortion, indoctrination -- propaganda and proselytizing -- to a minimum. But in concentrating on the positive task of achieving inspiration and belief, Rugg, the Illinois faculty, and Brameld failed to realize that an equal amount of effort, or even more, would be required to keep distortion and indoctrination out. In building a moralistic discipline, they and their followers failed to realize that talk about education, considered as a teacher-training discipline, possessed only as much value as its lowest common denominator. It is a case of the weakest scholarship and the last accurate description, not the most deeply felt coffee-cup conversation nor the most imaginative speculation, determining the strength of a chain-of-thought.

The mixture of artistic expression and scientific information with which foundations programs compounded doctrine to influence belief took knowledge of existent conditions for granted. The failure of factualism had led many educators to object to the idea of an empirical science of education, but the extensive pursuit of measurement studies and survey projects with their volumes of reported findings had inspired widespread confidence that the job of carefully describing the public schools in objective terms was well under way. Even Rugg's dedication to the new sciences of feeling and body response betrayed a deep conviction that the basic job of description was well in hand and that the foundation program must anticipate how to meet the needs of the future which could be reliably foreseen from descriptive knowledge of the present.

Failure to realize that the measurement and survey movements, as well as the sciences of feeling and body response, were experiments in ways of describing the present, rather than a reservoir of objective facts, led the advocates of the foundations program to a misplaced emphasis. Believing their speculation to be the extrapolation of known data, they gave considerable attention to imaginative speculation about how things ought to be instead of checking up on reports about how things are. The manufacture of new talk about how things ought to be in the future without a careful analysis of the reliability of old talk about past and present conditions cultivated the twin distortion that results from attacks on straw men who never were in the defense of phantoms who may never be. Instead of pioneering the construction of a language for objective-description of educational practice through the careful analysis of the reports which claimed status as facts or observation-centered reasoning, the foundations of education went out to generate social-science fiction. Assuming that each middleman conceptualist had a thorough training in the objective, clinical, and translative stages, primary attention was given to the creation of inspirational doctrines. Entertaining, stimulating, and even moving as those doctrines sometimes were, the lack of attention to well-established information made them resemble tableaux of intellectual shadows more than monuments of ably sculptured scholarship. At their worst, such doctrines were the humorless burlesques of an amateur mime.

CHAPTER ELEVEN

PATTERNS OF DEVELOPMENT

As teacher-training and as independent research, the development of the intellectual content about education has passed through four stages. The first stage began with the monitorial method at the beginning of the nineteenth century and finished with the twin development of Herbartianism and child-study at the end of that century. Stage two, confidence in an empirical science of education, covered the first quarter of the twentieth century. Stage three, in which two different kinds of research were mixed, overlapped the stages before and after it with no clear dates of beginning or end. The fourth stage, the attempt at subjective unity, began in 1929 and continues on through the present.

These stages of development do not chart the evolution of a discipline of education so much as they show the failure of such an evolution to take place. They chronicle the major turns in the issue of whether to develop an explicit discipline based on descriptive information or to substitute emotionally charged talk and show as the means for creating personal belief.

Nineteenth Century Approaches to Teacher Training

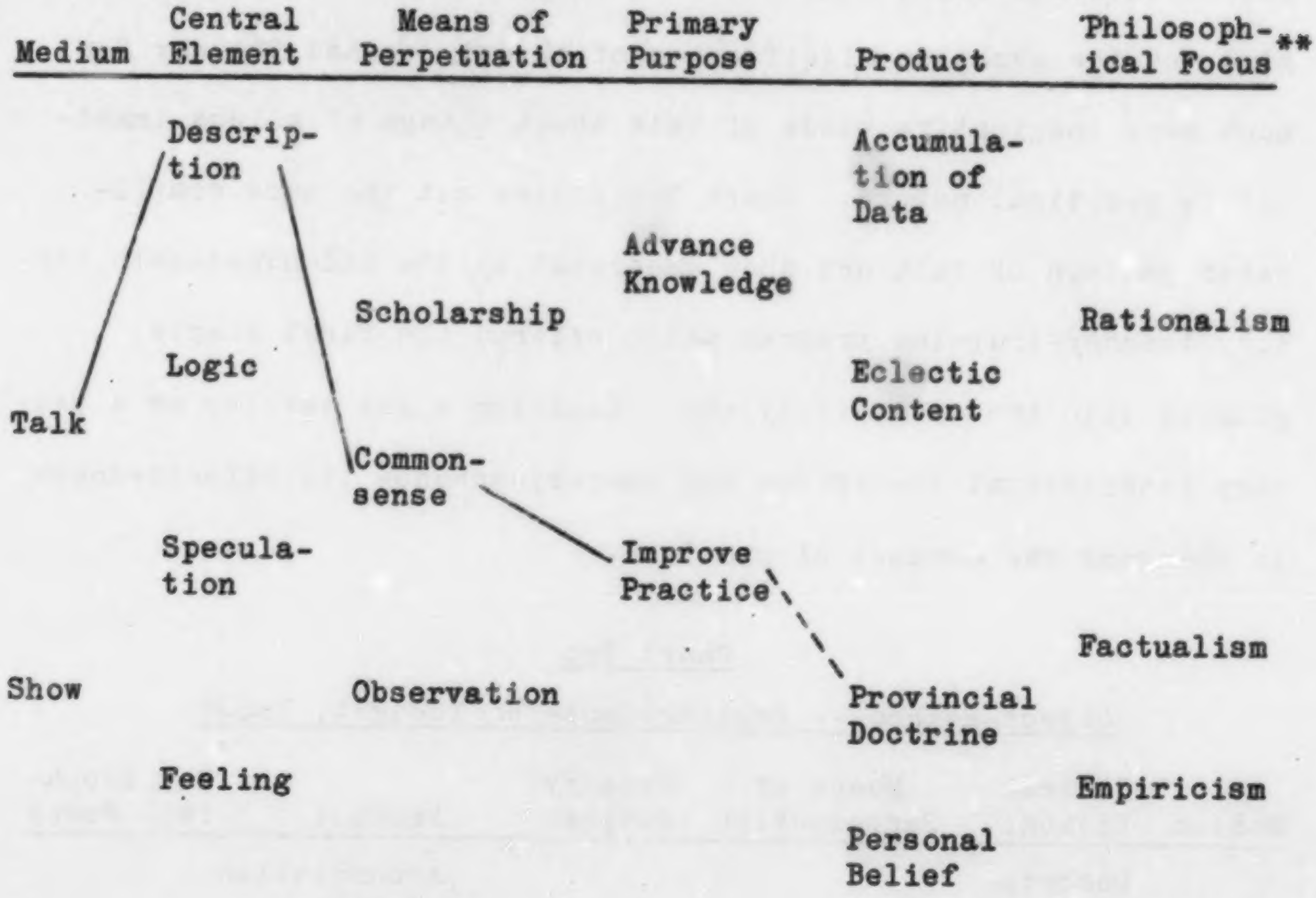
Innovation in the way of training teachers in the United States developed during the nineteenth century. Monitorial method, object-teaching, Herbartianism, and child-study each faced different sides of that changing practical problem; and each sought to solve it in different ways. The way these teacher-training programs talked about education set the precedents for the discussion of education as an intellectual discipline in the century that followed.

Monitorial method trained boys to perform the teaching function with the same techniques it employed in classroom instruction. Talk about the practical task of teacher training was one with talk about instruction. Frankly based on rote memorization, extensive drill, and unswerving obedience, talk about education quite easily described the techniques and content of monitor training in common-sense terms designed to improve practice. Chart One presents a synopsis of the nature of monitorial method, one of four major approaches to teacher training which set precedents for ways of talking about education in the nineteenth century. These precedents severely influenced how education would be conceived as an intellectual discipline at the beginning of the twentieth century.

Monitorial method had to make progress against widespread illiteracy with a minimal kind of instruction and hence had to maximize routine in order to provide strong control. Technical skill in conducting drill and recitation plus forceful techniques for commanding obedience [illegible]e adequate to the straightforward assignment of achieving letter-perfect repetition. The concept of instruction was narrow and simple; the standards of achievement were explicit and, taking into account the necessity for obedience, did not tax common-sense. In all respects straightforward

Chart One

Monitorial Method -- Practice-Centered Talk, 1820*



Medium	Central Element	Means of Perpetuation	Primary Purpose	Product	Philosophical Focus**
	Description			Accumulation of Data	
			Advance Knowledge		
		Scholarship			Rationalism
	Logic			Eclectic Content	
Talk					
		Commonsense			
	Speculation		Improve Practice		
					Factualism
Show		Observation		Provincial Doctrine	
	Feeling				Empiricism
				Personal Belief	

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*Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

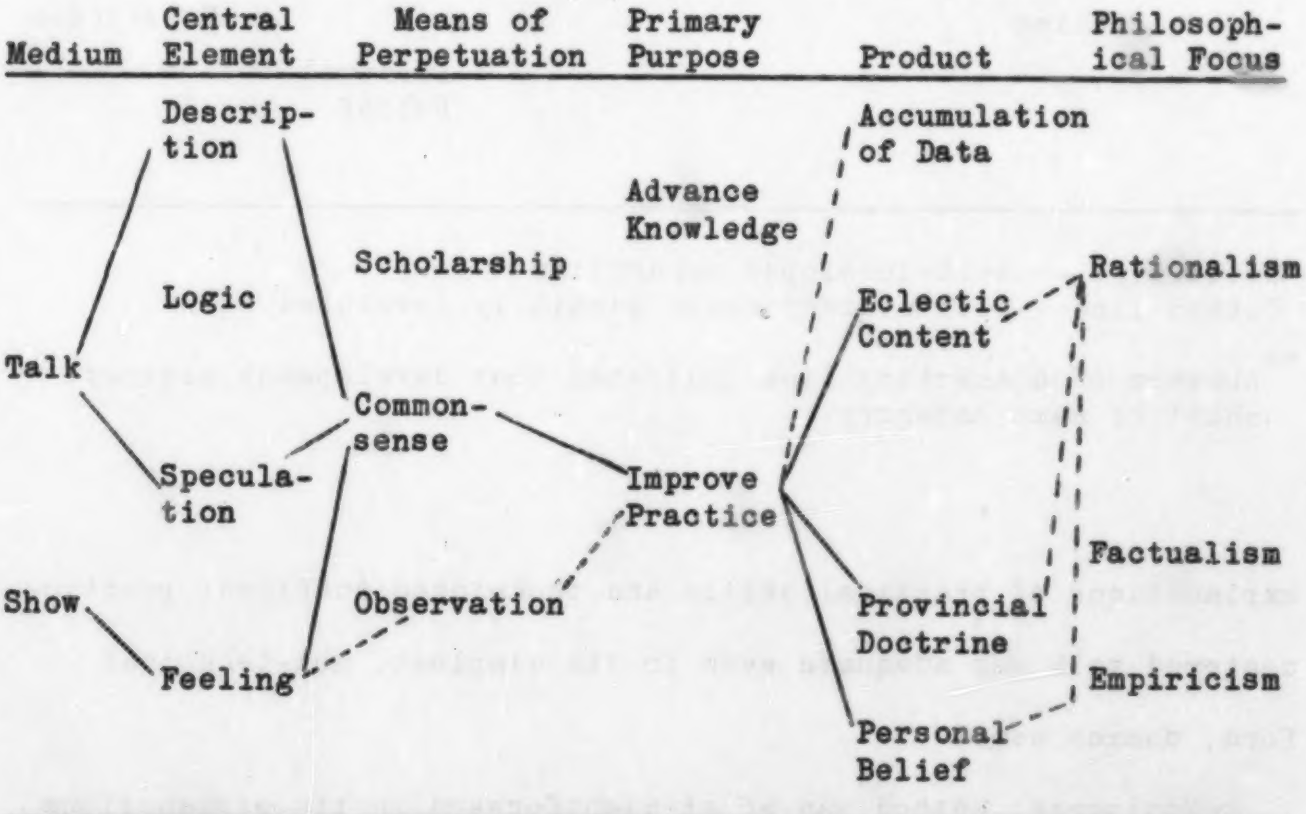
**Absence of connecting line indicates that development stopped short of next category.

explanations of practical skills and techniques sufficed; practice-centered talk was adequate even in its simplest, non-technical form, common sense.

Monitorial method was so straightforward in its explanations that the talk could be called non-theoretical. Object-method as originally discussed by Froebel and Pestalozzi continued to conduct the bulk of talk on the common-sense, descriptive level; but the speculation which both men introduced concerning the nature of mind and the symbolic significance of objects opened the way for much more imaginative kinds of talk about things of a less immediately practical nature. Chart Two traces out the more complicated pattern of talk and show generated by the mid-nineteenth century teacher-training program which offered the first simple glimpse into the possibility that education might develop as a primary intellectual discipline and thereby enhance its effectiveness in changing the conduct of practice.

Chart Two

Object-Method -- Feeling-Centered Thought, 1860*


Medium
Central Element
Means of Perpetuation
Primary Purpose
Product
Philosophical Focus
Description
Logic
Speculation
Feeling
Talk
Show
Scholarship
Common-sense
Observation
Advance Knowledge
Improve Practice
Accumulation of Data
Eclectic Content
Provincial Doctrine
Personal Belief
Rationalism
Factualism
Empiricism

---

*Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

Viewing the instructional task and the teacher's role in more complicated terms than monitorial method had done, training in the object-method had to go beyond common-sense talk devoted to the explanation of practice. The demonstration and practice-teaching parts of the program supplemented practice-centered talk of method with the explicit showing of technical skills. On one level, talk and show fit together in a common-sense approach to providing information about a less narrow, more complex kind of instruction than monitorial method had been concerned with. Practice-centered show and talk accomplished that much through explicit expression.

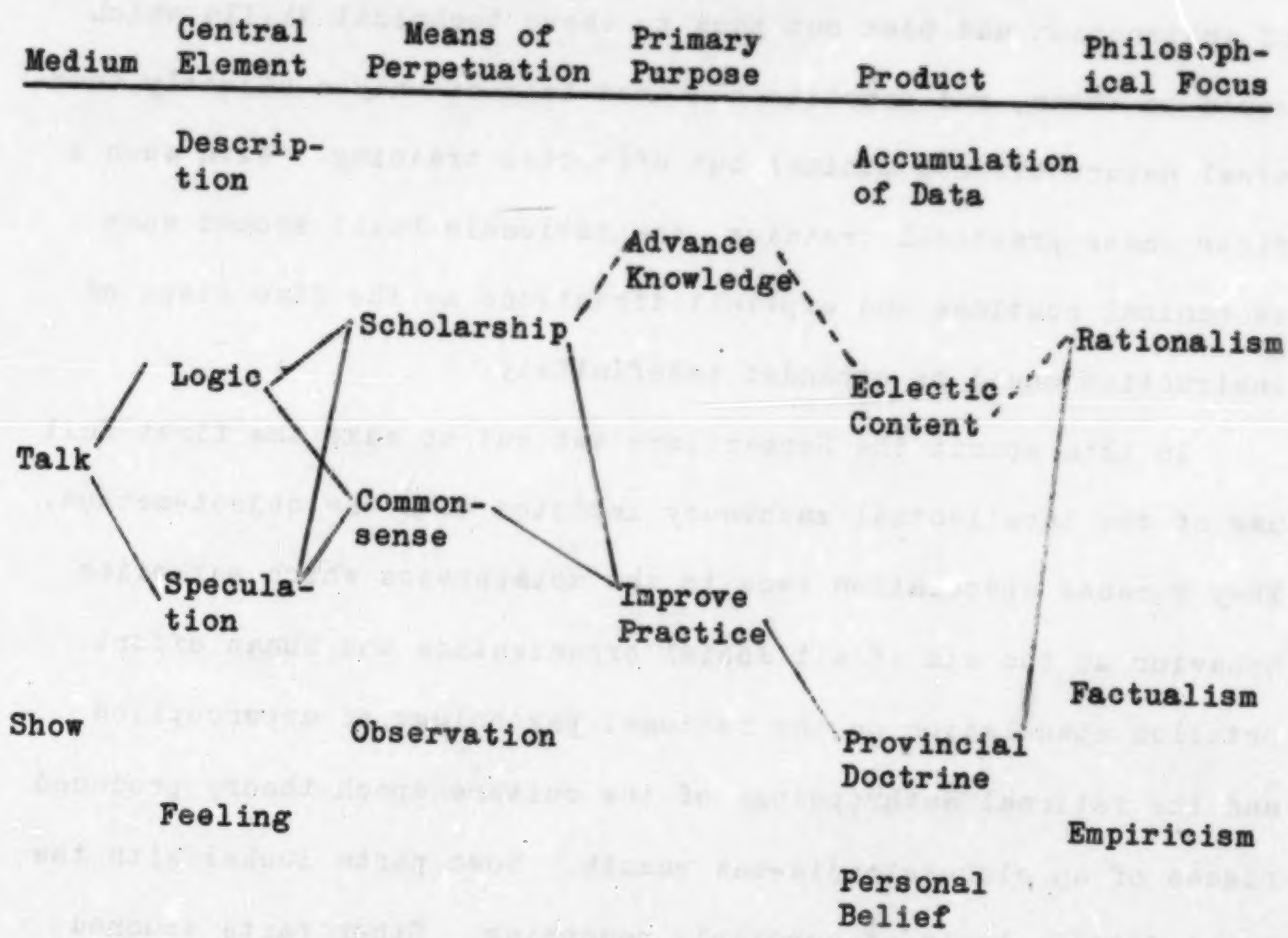
But object-method teacher-training went beyond the demonstration and explanation of technical skills. Practice-centered talk and show did not deal with the connection between the method of instruction and the concept of how the mind operated. The speculation of rational psychology had to be brought in to do this. Froebel's talk about the spiritual and symbolic significance of objects gradually added a kind of amateur speculation to object-method theory. Explanations of "reality" often went beyond common-sense in language and logic. Thus, on a second level, practice-centered show and talk were surrounded by speculation-centered talk.

Yet even these two levels did not complete the structure of object-method teacher-training. Somehow, the model of the teacher as a sympathetic adult responding sensitively to the behavior and the needs of children had to be achieved. Since this could not be built up explicitly from the sum total of technical skills and understandings developed, the best to be hoped for was that the needed sympathy and sensitivity would accrue as impressions from exposure to the totality of practice-centered talk, show, and speculation. Talk of the spiritual and symbolic -- metaphysical -- meaning implicit in objects and activities could only hope to arouse appropriate feelings in the practitioner. The sensitivity and the sympathy which the teacher was supposed to feel had to be evoked in like manner, not defined or described. To a degree, such attitudes could be exhibited, but the combination of talk and show mustered to create this feeling were summed up as resources to take over where straightforward, narrow, explicit, descriptive, practice-centered language stopped. Such feeling-centered show and talk was the top level of language from which the logical meaning of the speculation-centered talk and the technical meaning of the practice-centered show and talk derived their value. The humane interpretation of the teacher's role and the extension of the instructional task to include a way of looking at life had begun to absorb practice-centered talk. Information was necessary but no longer sufficient for the development of the desired attitude.

The issue became whether to give primary attention to improving ways of talking, as the Herbartians did, or to attend to influencing attitudes as directly as possible along the lines of child-study. This was the first fork in the matter of developing an objective discipline or developing something subjective to serve in its absence.

Chart Three

Herbartianism -- Logic-Centered Theory, 1890*


Medium
Central Element
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Talk
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Speculation
Improve Practice
Factualism
Show
Observation
Provincial Doctrine
Feeling
Empiricism
Personal Belief

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* Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

The Herbartians revived the monitorial concept of instruction as focused on drill in necessary skills and the recitation of important works. Alongside their finely polished concept of instruction the Herbartians stood a limited concept of the teacher's role. Though the Herbartian model of the teacher did not call for the extraction of obedience through a rigid chain of command, the teacher-to-student relationship was decidedly cool and formal, demanding little of such intangibles as sympathy and sensitivity as expressed in Pestalozzian terms. The view of the teacher and of instruction had been cut back to where technical skills which could be shown, and practice-centered talk of only a slightly technical nature offered minimal but effective training. With such a floor under practical training, the rationale built around such mechanical routines and explicit directions as the five steps of instruction could be expanded indefinitely.

In this spirit the Herbartians set out to make the first full use of the intellectual machinery imported with the object-method. They pursued speculation back to the metaphysics which establish behavior as the aim of all social organization and human effort. Detailed speculation on the rational psychology of apperception and the rational anthropology of the culture-epoch theory produced pieces of an elaborate jig-saw puzzle. Some parts locked with the tight-fitting logic of scholarly reasoning. Other parts touched one another in the smooth fit of common-sense thought. With all parts in place the puzzle spelled out the same message that practice-centered talk conveyed, namely, the five-step method

Conversational reasoning with its common-sense agreement and the documented logic of scholarship both mingled on equal terms in Herbartian talk about the educational entailments of speculation on "life." Overcompensating for limited descriptive information about mankind, Herbartian verbalization gave the illusion of great learning while creating the attitudes and feelings necessary for the successful conduct of practice. Taken in by their own illusion, the Herbartians declared such talk a science.

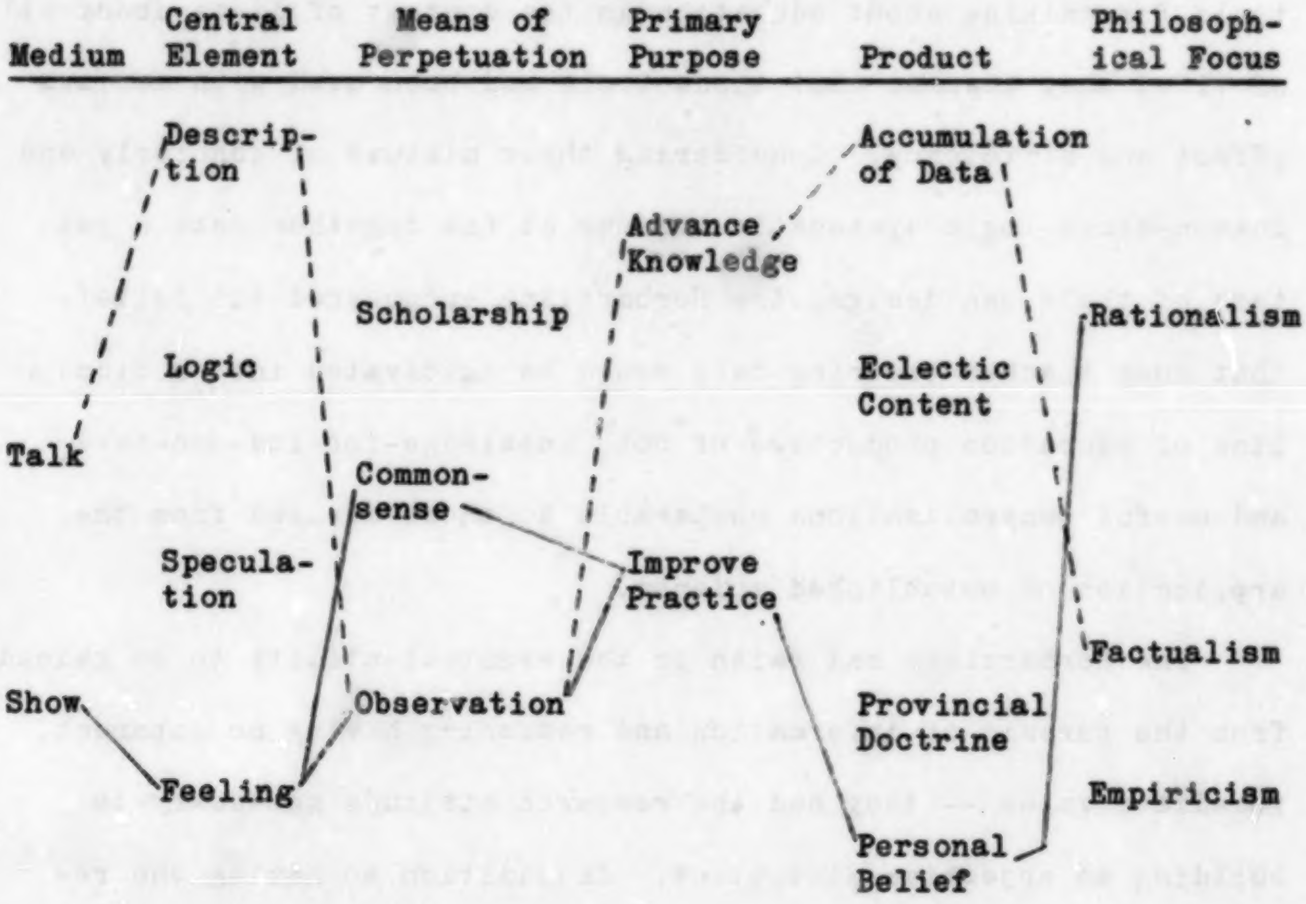
Being the first to make full use of the available intellectual tools for talking about education in the context of ideas about all of life, they assumed that these tools had been used with maximum effect and efficiency. Considering their mixture of scholarly and common-sense logic systematic because it fit together into a pattern of their own design, the Herbartians encouraged the belief that such teacher-training talk could be cultivated into a discipline of education productive of both knowledge-for-its-own-sake and useful generalizations comparable to those derived from the application of established science.

The Herbartians had faith in the eventual utility to be gained from the pursuit of information and reasoning having no apparent, immediate value -- they had the research attitude necessary to building an objective discipline. In addition to having the research attitude, advocates of child-study expected educators to spend more time looking at children and less time worrying over strictly logical theories. In directing attention to the feelings and the information to be gathered from the observation of children, child-study was the only one of the four nineteenth century training programs to see the full extent of the job involved in cultivating education as an intellectual discipline.

Object-method instruction and the sympathetic teacher underwent a face-lifting by child-study advocates. The handling of objects grew to include such activities as self-initiated investigation and imaginative invention. Child-study pursued the internal

Chart Four

Child-Study -- Observation-Centered Reasoning, 1895*


Medium
Central Element
Means of Perpetuation
Primary Purpose
Product
Philosophical Focus
Description
Accumulation of Data
Advance Knowledge
Scholarship
Rationalism
Logic
Eclectic Content
Talk
Commonsense
Speculation
Improve Practice
Factualism
Show
Observation
Provincial Doctrine
Feeling
Empiricism
Personal Belief

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*Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

responses and feeling states which accompanied object-method interest in learning through sensory contact. Tapping these internal feeling states so that they would come out as creative expression became a primary consideration in teacher-training. To inspire, recognize, and channel such internal sources of written, spoken, or acted expression, the teacher had to be more than sympathetic to the needs of children.

Such a teacher had to have internalized an understanding of how the child works on the inside as well as outside. That kind of a grasp of how children behave inside had to be felt, not explained. To achieve that feeling, detailed observation of children was added to the practice-teaching and skill demonstration developed in conjunction with object-method training.

Full use of the machinery of look and show gave the child-study advocates confidence that their training program was adequate to their enlarged definition of the instructional task and the teaching function. To develop this internal dimension of practice and practitioner, child-study cultivated direct exposure to the activities of children and supplemented the exposure with talk. Practice-centered observation became the most important part of teacher-training because of its effect on attitudes. The right attitude, moreover, was considered a prerequisite to understanding anything else about teaching. The sum total of talk and technical skills could not insure such attitudes, but without it talk and skills lacked overall integration.

The classroom had become a stage on which feelings about life were to be expressed. As director of that daily drama the teacher had to coach his students like a Stanislovski trained expert. Empathy, not logic, provided the key. The talk which supplemented the direct exposure of observation owed less allegiance to Herbartian scholarship and logic than to the sympathy and tolerance upon which object-method insisted.

Child-study training produced numerous accounts of child behavior written in a common-sense descriptive style by amateur observers. To the Herbartian belief that talk about education could be organized into a science, advocates of child-study added their conviction that reports by amateur observers could be added up to yield a science. Confidence in the ability of the untrained but dedicated amateur to grasp a fruitful line of inquiry overlooked by experts seems to have been at the bottom of the early twentieth century belief that a science of education was imminent. This same naive confidence in the amateur scientist prompted later students of teacher-training to accept the reports of measurement and survey researchers as facts instead of as experiments in description. The accounts of child-behavior reported by student observers were, however, early experiments at refining a language of description.

As the task of training teachers took on new dimensions, both talk and show had been expanded from narrowly practical tools for explaining technical skills into broad instruments for conveying the feelings implicit in a way of looking at life. In child-study the task of creating attitudes and feelings had been so completely taken over by the direct exposure to the activities of children that new attention could be given to limiting the language used in making the reports. Instead of having to use talk as a primary instrument for creating broad impressions and attitudes of sympathetic acceptance, the student of child-study could restrict it to the job of careful description. The sum total of careful descriptions gathered or read by any one student did not have to add up to a change in attitude. The change was achieved in the act of observing. Recorded observations were a bonus, and they could be treated in the same detached way that the Herbartians had approached their attempts at systematic reasoning -- as research for a discipline.

Cultivating the Research Attitude

Through teacher-training Herbartianism and child-study cultivated the research attitude though each put practice-centered considerations first. Under the encouragement of men like Royce, James, Dewey, and Munsterberg clinical research in laboratory schools promised to improve on-the-job descriptive reporting similar to the kind child-study had experimented with. The linking science of education sponsored by James and Dewey encouraged the scholarly investigation of established science and the careful processing of personal experience by middleman theorists who voluntarily limited their speculation. Critical talk about practice had a good beginning. A high point of hope came in 1912, however, when Paul Monroe, Thorndike, Henmon, Ruediger, and Parker distinguished between the immediately useful rationalism convenient for teacher-training and the careful observation, objective description, and limited generalizations essential to an empirical discipline of education.

Practice-centered talk seemed to be tightening into more precise, technical explanations, that is, into useful method. Show seemed about to be concentrated on the development of the skills that could be straightforwardly demonstrated -- another aspect of method. Such a move could have left logic-centered theories with their broad speculation about all of life and their detailed deductions for practice in the hands of scholars such as James and Dewey. Reports of child-study observations might have been refined into records of laboratory-school clinical research. It seemed that the research attitude born in the company of speculation about life and of feeling-centered observation would act first as a built-in governor against excesses of unscholarly talk and sentiment in teacher-training, and second, as a boost to the liberation of more scholarly and more scientific inquiry from the demands for immediate utility.

Instead, however, of bursting forth as a new-born force aiding in the development of education as an independent intellectual discipline, the research attitude conceived within the overlapping frameworks of Herbartian and child-study teacher-training became limited to practice-centered bounds. This added strength to the belief that the most important inquiry was that which could be turned to immediate use and created impatience with the long range view that Thorndike summed up when he likened descriptive research in education to the geographic charting of a continent.

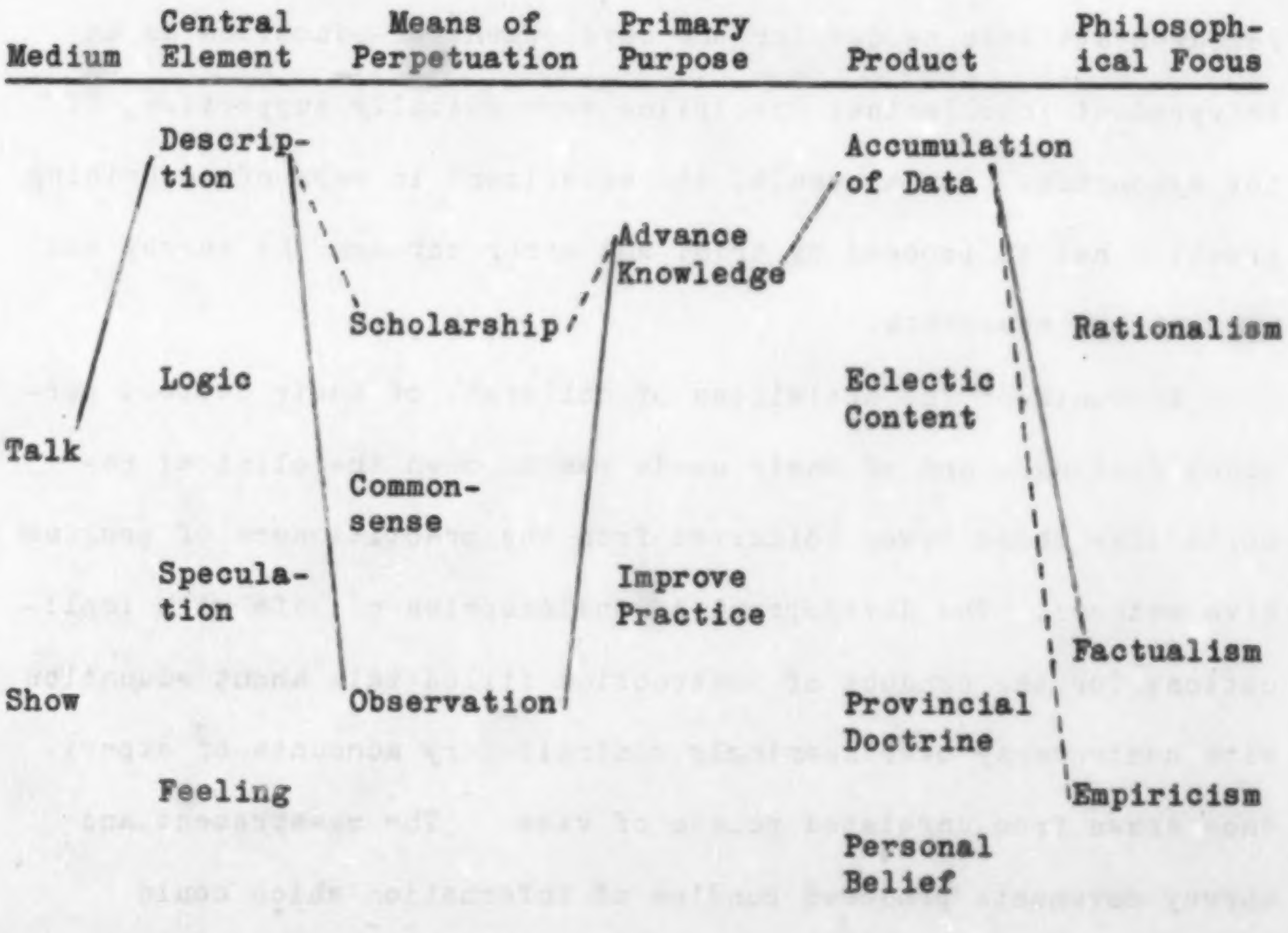
By using scholarship to back up speculation about all of life, to buttress drooping logic, or to find talk to fit preferred feelings, practice-centered research obscured the tasks of developing a language of careful description, a body of objectively described data, and a set of theories to be tested. Practice-centered research siphoned off energy that could have gone into experimenting with descriptive ways of talking. It flooded the literature with the speculative and feeling-centered vocabulary of teacher-training, and it dragged the scent of rationalism along the trail of empirical research.

Attempts to extract maximum immediate utility from scholarship and observation reduced the attention paid to the objective investigation of present conditions. Yet it fostered the belief that the practice-centered research attitude and the disinterested research attitude needed for the development of education as an independent intellectual discipline were mutually supportive, if not synonymous. As a result, the experiment in ways of describing practice had to proceed by trial and error through the survey and measurement movements.

Accounts of the activities of children, of their deepest personal feelings, and of their needs ran through the clinical reports like those Dewey solicited from the practitioners of progressive methods. The development of philosophies of life with implications for the conduct of instruction filled talk about education with controversy over seemingly contradictory accounts of experience drawn from unrelated points of view. The measurement and survey movements produced bundles of information which could neither be piled up nor laid end to end. Workers exploring each little niche of practice and each chink in speculative reasoning could not foresee that the sum total of their efforts would be random and repetitious rather than organized and cumulative. The improvement of the language of objective description and the extensive development of information gathered from a standardized point of view had not been accepted as a problem in need of direct attention. It had been assumed that the problem had already been solved. Under that assumption confidence in an empirical science of education took the form outlined in Chart Five.

Chart Five

Confidence in an Empirical Science, 1912*


Medium
Central Element
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*Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

Mixing Observation-Centered and Practice-Centered Research

By 1912 many leaders of educational thought had argued well for the liberation of research from the task of supplying immediately useful material, but more powerful trends forced teacher-training to bind investigation to the production of intellectual content which reached for a broad subjective euphoria rather than narrowly descriptive information. Three such trends which kept much investigation practice-centered but highly speculative were: (1) the rapid expansion of public schooling as an institution for social services in addition to instruction, (2) the further development of object-method and child-study concepts of instruction through progressive education, and (3) the increasing popularity of the idea that in addition to technical skill, the teacher must be guided by a philosophy of life. In providing an understanding of public schooling as a social institution, teacher-training had to account for a vast enterprise still unexplored as to its structure, its function, and its effect. Concepts of instruction which spoke of cultivating the expression of feelings and of satisfying deeply felt needs looked for light to illumine the unknown regions of consciousness and the depths below. And an educational philosophy of life had to make all this intelligible, somewhat consistent, interrelated, and applicable to explanations of method and of technical skills. In order to develop some useful "feel" for the child, instruction, the school, the community, and society within an account of the nature of experience, those building the content of teacher-training had to rely heavily on the imagination and the authority of established scholars. Practice-centered research developed the habit of using older philosophies imaginatively but without the precision and careful criticism of scholarly research. Practice-centered talk thrived on secondary scholarship which cared more for what could be done with an idea than for its precise meaning in the context of its original appearance. Interest in the imaginative use of an established idea sometimes ignored the genealogy of its development to the point of accepting second-hand interpretations of the thought, for example, of such philosophers as Plato and Aristotle.

Secondary scholarship in the area of philosophic speculation set a precedent for the subsequent assimilation of information, vocabulary, and generalizations from the sciences of human behavior into talk about education. Information was often selected to support speculation. Vocabulary was often adopted without the restrictions of meaning which gave it precision on home grounds. Generalizations were stripped of restrictive qualifications and used to support philosophic speculation about the nature of human nature.

This eclectic assimilation of philosophic and scientific thought left the patchwork of secondary scholarship with deep rents between speculation about the nature of experience and the technical skills known to be useful in the classroom. To create a feeling for the institution of public schooling, for progressive instruction, and for the guidance a philosophy of life could give to practice -- to create an attitude which would cover up the absence of objective information -- teacher-training had to encourage extravagant talk. Practice-centered research for training teachers opposed rather than supplemented the observation-centered research of the measurement and survey movements.

Further, while the measurement and survey researchers experimented by trial and error with ways of making the language of objective description more precise, the secondary scholarship of practice-centered research facilitated extravagant talk about education by oversimplifying scientific and philosophic thought. Though practice-centered talk often included measurement and survey findings readily, it accepted those findings at face value as facts at the very time when the experiment in ways of describing needed careful criticism and evaluation.

Teacher-training took whatever it could grasp and used it as a springboard from which to speculate. Otherwise expressed, uncritical acceptance plus invention enabled it to cover the broad task it had undertaken. Measurement and survey research attempted to give an account of everything in sight in the belief that each account was one of a finite number of descriptions needed for an empirical discipline of education. Differently stated, uncriticized reporting and undirected selection of observation marked the frenetic activity that seemed to be part of a descriptive task comparable to the geographic surveying of a continent. Separately, practice-centered and observation-centered research each produced considerable material. Added together as secondary scholarship the sum total of "educational research" suggested a discipline of some sort, especially in the peak years of the early 1920's.

The bulk of educational research produced, however, could only be organized mechanically, and such a method did not suffice to turn a collection of miscellany into a discipline. Libraries used mechanical organization to put everything in some category. Individuals in teacher-training cultivated particular philosophies of life and incorporated whatever findings could be accommodated from that provincial point of view. Individuals in measurement and survey research struggled with descriptive reporting and sought to bring some order to a small portion of the available data. Gradually little groups committed to a particular philosophy of experience of a particular way of describing human behavior began to supplement one another and thus began building sub-professional strongholds. Using secondary scholarship as if it were fact, talk about education moved into a tertiary stage which was called educational theory.

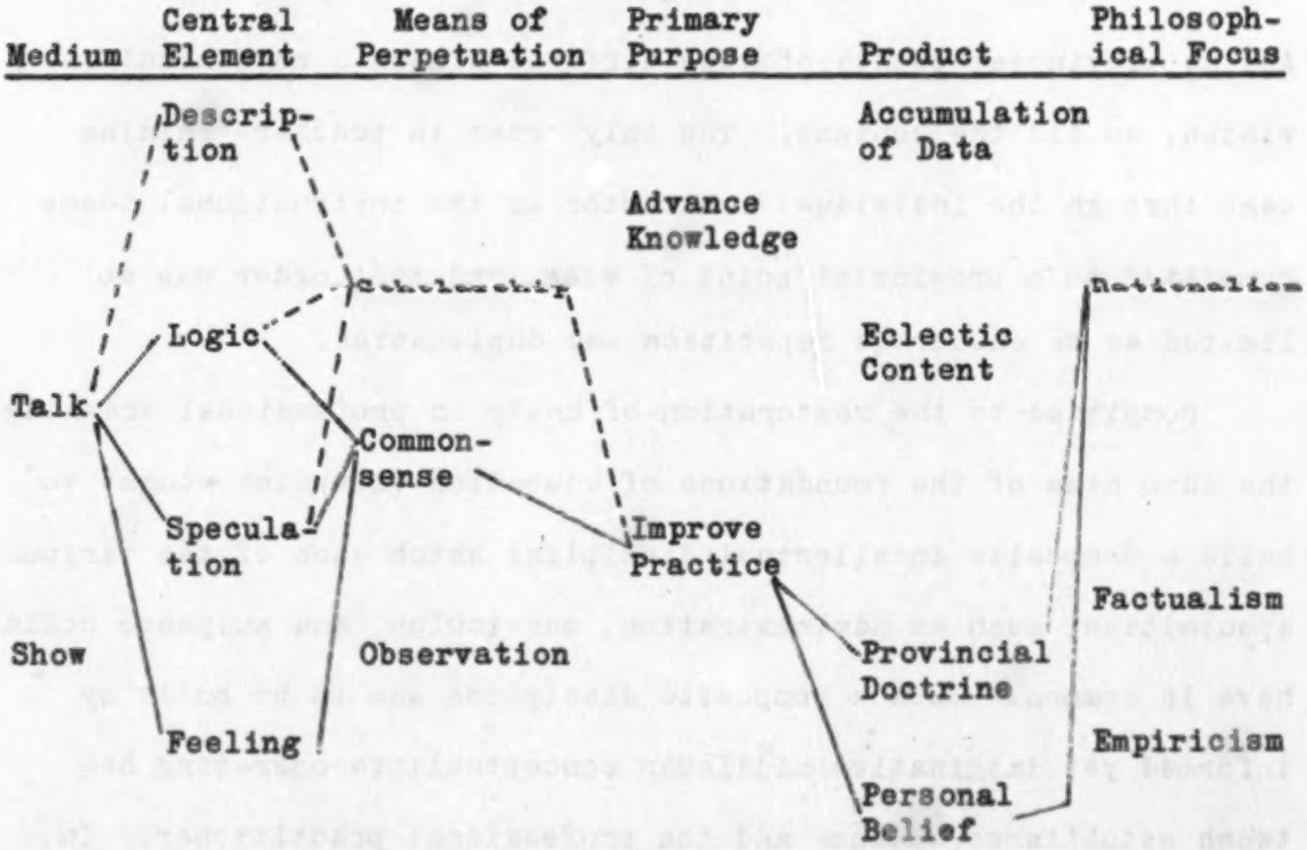
The redundancy and inconsistency in content among courses of the same designation demonstrated by [illegible] and [illegible] in [illegible] was part of the same confusion of specialties which confounded Pangburn in 1932. Even in 1912, teacher-training programs were organized mechanically into courses in educational psychology, principles of education, administration, and method; and concurrently individual courses exhibited the provincial point of view to which the instructor subscribed. Suzzalo used a change in mechanical organization to conceal the perpetuation of a provincial point of view when he suggested having educational philosophy changed to educational sociology without a change of content. By addition and by splitting of mechanical divisions the teacher-training program managed to make room for the expanded volume of practice-centered and observation-centered content. But the provincial viewpoints developed through practice-centered research gradually became power blocks, such as Instrumentalism, or Perennialism; and they injected the same quasi-philosophic questions into each mechanical division of content, such as curriculum, administration, or principles of education.

As advocates of particular provincial viewpoints teamed with those who favored a particular approach to the description of human behavior, the same information, vocabulary, and generalizations taken from observation-centered research began to appear in all the mechanical divisions taught from that one point of view. And as provincial points of view differed within a mechanical division, so did the content. The only order in teacher-training came through the individual instructor or the instructional teams committed to a provincial point of view, and that order was so limited as to encourage repetition and duplication.

Committed to the restoration of unity in professional training the advocates of the foundations of education viewpoint sought to build a composite intellectual discipline which each of the various specialties, such as administration, curriculum, and guidance could have in common. Such a composite discipline was to be built by informed yet imaginative middleman conceptualists operating between established science and the professional practitioner. In accepting Dewey's idea of the middleman conceptualist the advocates of the foundations of education concept also accepted his view that the only place for educational science was in the mind of the practitioner. Thus, the foundations programs by-passed the construction of an objective discipline focused on knowledge about education and sought after the practice-centered result of conviction in the mind of the practitioner. Chart Six maps out the route by which the foundations program sought to substitute subjective acceptance of a point of view for an intellectual discipline of education.

Chart Six

An Attempt at Subjective Unity -- Foundations of Education, 1950*


Medium
Central Element
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*Solid line -- well-developed tendencies
Dotted line -- latent tendencies partially developed.

Though educational course work had taken up permanent residence in colleges and universities by 1920, no discipline yet existed to supply the objective information on which all disputing viewpoints would rely. For the structure of course work teacher-training relied on the powers of organization possessed by conceptualists. Lacking a descriptive language which compelled consensus on what constituted objective observation, attempts at empirical research were therefore powerless to build a body of content on which all parties to provincial disputes might appeal.

The fragmentation of both practice-centered talk and the literature of observation-centered research testified to the absence of a discipline of education in each, even though both were established parts of the educationist's business. Teacher-training had neither a straight line of scholarly thought from which to trace speculation nor a clear line of clinical research from laboratory schools with which to justify certain methods or to attest to the efficiency of certain practical skills. Meanwhile measurement and survey research lacked the power to generalize with authority; and thus the problem of finding some way to relate one body of findings to another remained almost untouched. Middleman theorists were the only bulwark against the intellectual anarchy of unsupported personal opinion when, in 1929, Dewey began the move to relegate observation-centered reasoning to the established sciences and install personal belief as a compensation for the deficiency in scholarly discipline.

In the absence of a language of objective description within teacher-training talk or measurement and survey reporting, Dewey's book The Sources of a Science of Education proposed that observation-centered research be conducted where such a language was best established, namely, in the empirical sciences. With established science as the source of factual information and limited generalization, the middleman theorists would all have a common foundation from which to begin. Though the faculty at Teachers College, Columbia were willing to relegate observation-centered research to established science, they preferred to search out the foundations of American society as the basic platform from which middleman theorists would talk up an educational philosophy of American life.

In the 1930's the polemics of political science, social philosophy, and behavioral science replaced established science as the requisite background for practice-centered speculation. In the 1940's Rugg added the expressions of "the men of force" acting as creative artists in the sciences of feeling-body response, the arts, ethics, and aesthetics. In the fifties, the Illinois authors of Theoretical Foundations of Education added the poetic and ritualistic celebration of general ideals, and Brameld suggested anthropology and the world's great religions be included to the body of secondary scholarship.

These advocates of the foundations of education sought to combine the various complex modes of expression found in established science, the sciences of feeling and body response, political science, social philosophy, literature, the fine and applied arts, and religion into a subjective practice-centered educational philosophy of life. Such a program would by-pass any explicit discipline of education, either practice-centered around method and speculation or observation-centered around description and translation from established science. It would re-establish the emotional approach to the cultivation of attitudes and belief as the primary function of practice-centered talk and hence of practice-centered research. Such an approach to teacher-training hoped to achieve an emotion-centered rationale as comprehensive in the present as Herbartian logic-centered theory had been half a century ago. In its primary concern for attitudes and beliefs accomplished in the minds of practitioners and in its use of an emotion-centered approach, the foundations of education stands out as a contemporary expression of the same feeling-centered approach to teacher-training developed first around the object-method, then around child-study, and later as part of progressive education.

The Evolution of Extravagant Talk about Education

Before the Civil War, monitorial training explained particular technical skills of instruction and control in practical, descriptive terms leading toward the development of non-theoretical talk about method. Concerned with implementing drill and extracting obedience, monitorial method remained common-sensical throughout.

During the Reconstruction Period, object-method teacher-training continued the expansion of descriptive, practical content supplemented by extensive demonstration. In addition, however, object-method training incorporated a popular variety of speculative talk designed to further practice-centered aims. Froebel's talk about symbolic and spiritual significance of his "gifts" fit well with popular religious beliefs. And further, speculation and talk about methods were encased in the conviction that an attitude of empathy and a feeling of sympathy for childhood were necessary before technical skill in instruction could be made effective. Introspective talk and spiritual speculation had been grafted on to objective description.

In the last decade of the nineteenth century Herbartianism took the emphasis off technical skills and instructional methods which could be directly talked about or shown. Skills and attitudes were secondary to logic-centered intellectual understandings. But, as James pointed out in his attack on the pedagogical idea of apperception, the scholarship of one generation had led to the educational common-places of another. Herbartian logic and speculation mixed descriptive and non-descriptive ways of talking as indiscriminantly as it mixed scholarly inquiry and cracker-barrel curiosity. Practical in intent, it had to remain primarily popular in content.

During the same period child-study sought to distinguish between the reports of amateur observers and the practice-centered feelings evoked by watching children. Attitudes and skills were to result primarily from observation and demonstration though practice-centered description of method and speculative theory would supplement such implicit understandings. First, practice-centered talk remained as mixed as Herbartian theory had been as well as subordinate to feelings, and second, the language of objective description was to be used by amateur observers to build the content of an observation-centered science of education.

Confidence in an empirical science of education grew around 1912 when it seemed that amateur observers were being replaced by experts. For the next decade the belief that a language for objectively describing educational conditions was available and being used profitably by experts remained strong. The innumerable research studies which make up the measurement and survey movements between 1910 and 1925 were not looked on as experiments in various ways of describing. They appeared, instead, to be the content of a science of education. Meanwhile, during the fifteen years in which observation-centered research experimented with ways of describing educational phenomena, teacher-training continued to mix explanations of method, subjective talk of internal feeling states, and conversational philosophies of life with clinical reports from laboratory-school practitioners and an elaborate scholarship of speculation. Throughout, the teacher-training ideas of the nineteenth century were recast in the terminology of twentieth century behavioral science.

During the depression and the post World War II years the foundations of education viewpoint made that amalgam of practice-centered talk even more extravagant by making skill, information, and logic subordinate to the emotional attitude and feeling achieved. Thus, with the exception of the child-study experiment in modes of description, the influence of teacher-training has been to turn talk about education away from anything that could be called an explicit discipline of education and toward a practice-centered doctrine of personal belief frequently conveyed in emotionally charged terms.

The evolution of talk about education has not followed the path taken in the organization of content and the demonstration of skill cultivated in legal, in engineering, and in medical training. Instead of a rigorous discipline of detailed scholarship and precise demonstration focused on the objective explanation of a narrow segment of practical affairs, talk about education has summoned the secondary and tertiary scholarship of amateurs to the task of expressing subjective impressions. Throughout the dominant trend in talk about education has been one of trial-and-error experimentation in the expression of popular attitudes and beliefs. Being a first step in expressing the viewpoints deeply embedded in the American way of living, such talk about education changes as rapidly and as radically as the pattern of living and of popular thought changes. For example, the attitudes of the 1930 depression differed as much from the attitudes of post World War II prosperity as social conscious permissiveness differs from current concepts of corporal and intellectual discipline. In the United States the evolution of talk about education has been a reflection of the evolution of popular, rather than academic, thought concerning human nature and human society. Lacking a discipline, teacher-training has depended on prophets and their disciples.

The Next Step

Academic thought about education as an intellectual discipline has recently suggested that forms of organization fruitful to biological and physical science might radically alter talk about education. Cultivating the partly developed but latent tendency toward objective description implicit in the factualism of the measurement and survey movements, two independent sources have recommended "taxonomies" as the key to the reorganization of education's content.

In 1956, under the editorship of Benjamin Bloom of the University of Chicago, a committee of college and university examiners published the first of three intended volumes named Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. In that same year Professor W. H. Cowley of Stanford University put his evolving taxonomy of higher education into the form called An Appraisal of American Higher Education.

Different in areas of concern, in manner of organization, and even in their conception of taxonomy, the two projects resemble one another in the fundamental belief that new modes of classification are needed to give educational data significance as part of a comprehensive and unified intellectual framework. Each has attempted to span the sea of isolation in which islands of information go uncharted and even undiscovered. As such, they represent a next step in the evolution of talk about education as well as a

potential solution to the problem of organizing an intellectual discipline of education. In the hope of realizing whatever potential they hold, the critical examination of these proposed taxonomies now takes its place high on the list of research to be undertaken by educationists.

APPENDIX

A MEMORANDUM BY PROFESSOR JOHN DEWEY TO PRESIDENT WILLIAM RAINEY HARPER OF THE UNIVERSITY OF CHICAGO ENTITLED "PLAN FOR ORGANIZATION OF WORK IN A FULLY EQUIPPED DEPARTMENT OF PEDAGOGY"

January 6, 1897*

The various lines of work which are naturally included within the scope of a University Department of Pedagogy may be reduced to a few main heads. We have

1. What may be termed for convenience, Educational Physics and Physiology, dealing with the whole plant of educational work and the adaptation of that to the physical being and welfare of the pupils.

2. Educational Sociology which concerns itself with the organization and administration of the educational system, both in relation to other social conditions and institutions and in its own external mechanism and workings.

3. Educational Psychology which deals with all matters appertaining to the adaptation of the school resources and the subject matter of the curriculum to the child. Its problem is how, out of the plant and school system described above, to get the maximum of result from the standpoint of the individual pupils.

4. We have the subject matter of general pedagogy occupying

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*Unpublished. The memorandum is preserved in the Archives of the University of Chicago.

itself with the theoretical considerations regarding the nature, ends and aims of educational work and the intellectual organization of curriculum and methods corresponding thereto.

5. Educational History dealing both with the systems which have actually obtained at various times and in various countries, and also with the development of the theory of education as such.

I Educational Physics and Physiology.

1. School buildings and grounds; city and country; heating, lighting, ventilation, and plumbing; laboratories; school furnishings, desks, blackboards, etc.; school decoration and aesthetics; all this to be inclusive from the Kindergarten to the University. Besides giving courses, the person in charge of this work would be responsible for the collection of plans, drawings, photographs, etc., from all available sources. Summaries should be given in original investigation along these lines, the construction of proper plans, etc. The work should look ultimately to co-operation with school boards in furnishing information upon these points, copies of plans, etc.

2. School Hygiene. The adaptation of the matters mentioned above to the health of children, including the investigation of the normal and abnormal conditions of the sense of the muscular system in relation to the physical conditions of school work. The nervous and other diseases of children so far as they act and react upon the work of education, should be included, as also the theory of physical exercise and culture in relation to health. The person in charge of such a course ought to be, if not a physician, one who

has had a thorough training in physiology and is in close contact with physicians. The seminar work would involve an examination of the actual school buildings from the standpoint of all their sanitary arrangements. On the practical side there would be such cooperation as occasion might suggest with the City Board of Health and with physicians and others interested. Through the museum and library there should also be formed here a sort of bureau of information to which those engaged in actual school administration might apply.

II Educational Sociology

1. Systems of education in their relation to political, economic, religious and intellectual conditions of society, involving such things as a comparative study of the various European systems in their special adaptation to their surroundings and a study of the various types of the systems found in this country, in their adaptation to their local environments. It would also involve a study of industrial, technical and professional education from the same standpoint.

2. Internal School Organization and Management. This would include a study of the business side; the raising and expenditure of money for school purposes and the proper divisions of labor involved there. It would take up the functions of school boards: the Superintendent, Supervisors, Principals, etc., and their relations to each other. The question of the methods of preparing teachers for their work and so on, would come under survey also. In fact all the problems which have to deal with the actual

administration of the school system. The advanced work would consist in an actual examination of systems of Chicago and other cities near enough to be personally investigated with a view of discovering both the methods actually pursued, the defects and the suggesting of remedies.

III Educational Psychology.

1. Child study, both on the side of its methods and the undertaking of actual work, should receive attention.

2. Course or courses should be given in Psychology as applied to instruction. The question of methods in relation to the learning process of the mind.

IV General Pedagogy. This is the head which receives most attention, and in some cases, exclusive attention, in the existing status of Pedagogy in colleges. It deals with the philosophy of education as such and the question of educational aims and means. Beside this general work it should include a more special and detailed study of the school curriculum; of the studies actually pursued in the schools, of their respective values and relations to each other; also a study of the various sub-divisions of the educational system, elementary, secondary, and higher, from the standpoint of their curriculum and their methods.

V Education History.

1. The history of educational systems as actually organized, for example, the Chinese, Greek, Roman, Medieval; the history of the development of the modern common school system; the history of the development of the curriculum. This is the

historical counterpart of what is treated theoretically in III.

2. The history of the theoretical discussion of educational matters. The study of educational classics from Plato down. The study of the epochs of educational reform and the writings which influenced them; the relation of educational thought to philosophical, ethical and religious thought; a consideration of educational theories in their relation to the general culture and intellectual atmosphere of the times.

The above takes up the work of the department from the standpoint of its logical sub-division. From another point of view it may be said that at least four courses should be given as undergraduate courses. These four are general in character and to be taken by those interested in education, apart from specialization along any particular line.

1. The history of educational doctrine.
2. Educational psychology on its theoretical side.
3. Child study.
4. A synoptic view of school organization; the resources of the school; their administration; the chief contemporary problems in educational administration.

In the above nothing has been said about work in the actual training of teachers as it is assumed that for the most part, at least at the outset, the whole stress must be thrown upon the culture side rather than upon the professional. There are two phases, however, of training work whose comparatively speedy inauguration is worthy of consideration.

I. When the Manual Training School is definitely annexed to the University, and its location changed so as to be sufficiently in close contact with University work, it would be highly desirable to have it include a special course for training teachers in the direction of manual training. The introduction of this line of work in the public schools is hindered now more by the lack of properly trained teachers than by any other one thing, as public opinion in general is now decidedly in favor of it. The New York Training School for teachers is the only college of rank now making a specialty of this matter.

II. We have already begun to have applications for teachers who are trained in the methods in use in our University Primary School. As soon as means are sufficient to give us a good supervising principal (a thing very much needed in itself) we should aim at securing a person who should be able to take oversight of and give direction and criticism to a number of assistants who should, at the same time, be taking theoretical work in the University. Such a move would be economical in more ways than one as it would enable us to derive a revenue from our assistants instead of having to pay anything for their services. R. S.

John Dewey

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EDUCATION AS A LITERARY DISCIPLINE

Cooperative Research Project No. 245

By

Charles J. Brauner

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FOREWORD TO PART TWO BY THE DIRECTOR OF THE STUDY

In the Foreword to Part One, page iii, I wrote that "most of the work of Part Two has been finished, and much of it has been written." I wrote this statement because of what Mr. Brauner had told me in person or written me from Purdue University where he went as an assistant professor of education in the Fall of 1959. I had, however, seen none of the text of Part Two.

On the same page as cited above I also wrote that "the writer has kept in continuous touch with Mr. Brauner's work and has frequently -- during some periods daily -- discussed it with him." This observation does not apply to Part Two. I assumed that Mr. Brauner would handle it as described in the Foreword of Part One, but he decided otherwise without consulting or informing me. Thus when its finished text arrived early in September of this year I included the following in my letter of acknowledgment:

> . . . only in the next to the last sentence of the last paragraph of page one [of your letter of August 29th] do you incidentally mention the topic for which I raised $15,000 for you, namely, taxonomy.
>
> Nor does Part Two -- I see from a hasty reading -- discuss taxonomy. This baffles me, and, to use a euphemism, also troubles me.

The correspondence that followed led Mr. Brauner at my suggestion to write the statement immediately following this entitled "Foreword to Part Two by the Investigator." It speaks for itself, and I have only one comment to make about it, namely, that I believe that I could have met most of Mr. Brauner's criticisms of my taxonomy had he given me the opportunity before leaving last summer to spend two years in Sweden.

Concerning the body of Part Two I have no observations to make other than this: its relevance to the original purpose of the study as stated in the Foreword of Part One eludes me. I have therefore only superficially edited its chapters other than the first, a task I undertook before I comprehended Mr. Brauner's revised plan.

December 28, 1961 W. H. Cowley

FOREWORD TO PART TWO BY THE INVESTIGATOR

Originally, this project was proposed as a two-stage inquiry into improving education as an intellectual discipline: the first stage had to assemble the major conceptions of classroom practice and examine them as content for a discipline, the second stage would explain and analyze taxonomies in education in search of a form of organization appropriate to a discipline of higher education. In particular, Part Two was to examine Mr. Cowley's taxonomy for the classification of higher education as it appeared in his 1956 mimeographed edition of An Appraisal of American Higher Education. At the time of the original proposal and also at the time of the application for the grant to cover Part Two, it seemed that this two-fold examination of practical systems and educational taxonomies could be carried out as proposed with the two sections fitting together neatly, without gaps.

From the very conception of the proposal, throughout the full research period for Part One, and during the whole of the writing of Education as a Subject of Study, the two problems were treated as one. The historical examination of practical systems seemed the natural prelude and general framework from which the analysis of contemporary taxonomies in education could be projected. Throughout the nine months of research that preceded the writing of Part One the inquiries into taxonomy produced as much information as the inquiries into historical conceptions of practice, but its writing interrupted further research on taxonomy. After a little more than a year, with Part One completed, research into taxonomy began again.

This time the goal was to analyze Mr. Cowley's taxonomy for higher education with a view toward ascertaining its similarity with or difference from taxonomies found so successful in organizing areas of empirical investigation such as botany or chemistry. That single-minded inquiry into the nature of taxonomy suggested the following lines of assault applicable to the examination of educational taxonomies:

1. The nature of the categories
2. The determination of category membership
3. Exemplary categories

Approaching the proposed taxonomy for higher education set forth by Mr. Cowley from these three angles brought Part Two face to face with certain discoveries which changed the direction of subsequent investigation and writing.

The Initial Analysis

The first tentative exploration of Mr. Cowley's taxonomy dealt with the most concrete and least equivocal of its elements. Weaknesses found in the strongest part of the system, it seemed, would be important ones having implications for the whole of the proposed taxonomy. For the initial stress test the categories of "personnel and clientele" in his Personas Triad were selected as being most parsimonious, least involved in extended debate, least ambiguous, most simple, and altogether central. The three lines of attack mentioned above were tried out on those two categories of the taxonomy. In brief, the following results were obtained.

The Nature of Categories: The questions directed at Mr. Cowley's taxonomy under this heading were designed to test whether his strongest set of proposed categories would, in fact, hold up as categories. Is the category titled personnel discrete? Is clientele an unambiguous category designation? In each category what are the boundaries? How are they (the boundaries) determined and what markings indicate the limits? Do the categories overlap? Are provisions made for multiple category membership without introducing the error of double counting in tabulating sums of both categories?

The abundant use of graduate students as instructors suggested two critical problems: the ambiguity of the categories clientele and personnel, and the difficulty of determining just what was being classified in such a category -- the man, his behavior, his accomplishments, his intentions, his role, or something different altogether. An Appraisal of American Higher Education was combed for some formula by which the placement of an unclassified specimen such as a teaching graduate student would be determined. Does he belong in clientele? in personnel? in both? or in neither? No such formula could be found. In fact, no specific boundaries for these categories were set out. The status of the sample specimen remained undecided. To all appearances, after the discussion of central tendencies in the text and the mention that the categories were not mutually exclusive the proposed categories did not seem to be categories at all, but rather ends of, or points along, a continuum. But if the proposed categories have no discrete boundaries and merge along a continuum, then they can be used as categories only by arbitrary assignment. Presumably, however, the attempt to develop a taxonomy of higher education began as an attempt to escape arbitrariness, or at least minimize it.

The Determination of Category Membership: Since the two categories under examination lacked clear boundaries, no direct inspection of boundaries could be made. The question had to be changed to read, "Given such boundaries what would they look like and how would they be set?"

This was the problem of the theoretical basis for the existence of categories and it tied into two key considerations: (1) is category membership based on objective evidence, and (2) are there prototypes for each category? The second question leads into the basis for selecting the characteristics to which importance is attached. No discussion of these issues could be found in the text. No mention of prototypes or list of illustrations appeared. The text does not specify what characteristics distinguish members of one category from members of another or what members of a given category have in common. In short, a field worker could not learn from An Appraisal of American Higher Education what to look for in a specimen, or indeed, what a specimen might look like. If he must know without being told, then the criteria for category membership must be self-evident, intuited, innate in the observer, or revealed. But this is not discussed, and no guiding examples or illustrations are given.

Exemplary Categories: One proof of an invention's success is a working model. The categories filled (but not necessarily filled up) with classified specimens act as an exhibit of the taxonomy's suitability for field work -- they provide a working model. The working model with which Linnaeus launched his famous botanical taxonomy contained over three quarters of the known plants of his time thus proving beyond a doubt the superiority of his system.

Since no working model appears in the text, it seems that Mr. Cowley has proposed an untried system or withheld the evidence of its application. Illustrative categories filled with already classified specimens would have permitted speculation about how classification had been done, about the location of boundaries between categories, about the characteristics given central importance in each category and throughout the system as far as yet applied, about cross classification, and about the existence of prototypes. Exemplary categories would offer direct evidence of objectivity in classification (even if not conclusive evidence).

Beyond the relatively simple categories of personnel and clientele, Mr. Cowley looks on the proposed taxonomy as a single, unified system for classifying the whole of an area of intellectual inquiry, namely, higher education in the United States. This suggests that there must be some specific relationship that extends throughout all the categories to give them the overall architecture of a single structure rather than the artificial and eclectic appearance of particles randomly lumped together. In the empirical taxonomies of chemistry the atomic weight of hydrogen serves as a fundamental unit for classifying specimens into different categories on the periodic chart. Though Mr. Cowley discusses such units in connection with the established taxonomies in botany and zoology, he leaves untouched the question of basic units with reference to higher education. In the absence of an extensive system and in the absence of some suggested basic unit common to all specimens there are only two kinds of unity the proposed system could have: the objective unity of logical demonstration or the subjective unity of personal preference. In many places the unity of the system is alluded to or asserted, but nowhere in the text is that unity logically demonstrated.

This tentative, initial analysis (originally performed by reflection rather than in writing since it was intended as a search for a route that writing would follow) raised four critical questions which could not be satisfactorily answered from an examination of An Appraisal of American Higher Education. The four questions which cast doubt on the very intelligibility of the proposed taxonomy were:

1. What is being classified?
2. How is an unclassified specimen identified?
3. What characteristics of an unclassified specimen are significant for classification (a specimen can have an infinite number of characteristics)?
4. What particular combinations of characteristics admit a specimen to each category?

Difficulties unfold when these questions are put to Mr. Cowley's proposed system:

Q. 1 -- What is being classified?

A. 1 -- Personnel (or clientele, etc.)

Q. 2 -- How is an unclassified specimen identified?

A. 2 -- By its function (or structure, or purpose).

 Q. 21 How is a function recognized?

 A. 21 No comment.

Q. 3 -- What characteristics of an unclassified specimen are significant for classification?

A. 3 -- Structure, function, and purpose.

Q. 31 How are these recognized?

A. 31 No comment.

Q. 4 -- What particular combination of characteristics admit a specimen to each category?

A. 4 -- The anatomy of structure, function, and purpose has not been prepared yet.

Here, then, is a dead end quite short of any taxonomy or any system for classifying anything. The observer must know a function when he sees one, know what kind of a function it is, and then classify it according to that function. If he doesn't know how to do this, the text will not tell him how or show him examples of how it has been done. But if he already knows this, then he doesn't need the text. Nowhere in An Appraisal of American Higher Education is the detailed anatomy of function given in behavioral terms and matched against category characteristics so a key for classification can be designed, inferred, or guessed about. There is no hint that a detailed behavioral description of the characteristics necessary for category assignment must be given.

Furthermore, even if a behavioral description of the anatomy of function could be uncovered for the category personnel a different anatomy would have to exist for clientele, since these represent different functions. What would there be in the two skeletons that provided the categories with unity as part of an overall system? Would they be two separate classificatory systems which permit the same specimen to be classified in each system? Are there to be as many systems as categories? The suggestion that they are all categories relevant to the same organism -- higher education -- raises more questions about the suitability of such an analogy than it supplies answers.

Approached from another angle, different answers to these four basic questions raise different perplexities:

Q. 1' -- What is being classified?

A. 1' -- Concepts.

Q. 2' -- How is an unclassified specimen recognized?

A. 2' -- By its relevance to the categories. (The obvious question about how relevance is determined can be omitted.)

Q. 21' -- Then the characteristics of the categories are established first and the specimens matched to them?

A. 21' -- If yes then the system is a priori, quite subjective, and in all probability thoroughly arbitrary.

A. 21'' - If no! a detailed anatomy of concepts must be provided as a key with which the characteristics of the specimen can be matched against the characteristics of some prototype or already classified category members. (Needless to say, no such anatomy appears in the text.)

Still further unanswered difficulties come up when exemplary categories are imagined for the system as proposed. If the system is designed to handle "concepts," then what happens to "things"?

How can a system handle both things and concepts and be more systematic than a combination of museum and library? Can the behavioral description of things and a system fitted to classification on that basis be adapted with equal suitability to the classification of ideas? Are personnel and clientele categories for the classification of things (people), activities (functions), or concepts (beliefs and opinions)? In such a system would the figures for last month's payroll rest comfortably alongside a dissertation on the personalities of Nineteenth Century Land-Grant College Presidents? The absence of exemplary categories hampers speculation, and it is difficult to see what advantage such a cataloguing of dissimilar materials would provide. If the reply be that similar materials would be grouped, the response naturally comes back as the question "What characteristics will be regarded as similarities?"

Unless concrete illustrations of the stuff being classified and of the manner of classification are on exhibit, few can be expected to take interest in the system. It is not unfair to ask of a tentative system of classification that it be specific, comprehensive (though not exhaustive), and unambiguous about what is to be classified. There is no malice in asking that the characteristics which make a specimen a candidate for classification be set forth in clear and unequivocal terms. Only a frank delineation of the features on which class membership will be determined can reveal whether the designer of the system sees the world of specimens in a way that his fellow observers share or can learn to share. Only a careful specification of the boundaries of category membership can prevent interminable squabbles over where a specimen should be placed. These things are elementary requirements of any system of classification, much less a taxonomy.

The initial analysis of Mr. Cowley's proposed taxonomy suggested that it could not be considered a single system, that it exhibited no key according to which classification could be performed, that it provided no behavioral description of the anatomy of function, structure, or purpose, and that it lacked exhibits of how classification could be performed. In short, it seemed not to be a classificatory system at all. The answers to the four basic questions asked above, about what was being classified and its characteristics, proved equally disappointing. Since the identification of what was being classified and the investigation as to how it was to be carried out could not be pushed below the level of abstraction subsumed by the terms "concept," "structure," "function," and "purpose," the initial analysis seemed justified in concluding that An Appraisal of American Higher Education failed to face these issues directly. Instead, the question of what was being classified was kept ambiguous by the use of the term concept. When questions about how a specimen was to be identified or how a function was to be described were answered only in terms of "structure" or "purpose," this was regarded as taking refuge in vague abstractions. Thus the initial analysis concluded that the text consisted largely of semantic evasion of the critical questions involved in designing a classificatory system. And that semantic evasion was accomplished (unintentionally, to be sure) by word substitution at the same level of abstraction when what was called for was behavior characteristics at ever more specific and concrete levels of sharable observation. So the unwritten reflections which comprised the initial analysis of Mr. Cowley's taxonomy concluded. (How should these be communicated to him as director of the project? Attempts to write them out at that time proved abortive. Two thousand miles and no travel funds made face to face discussion impossible.)

The Change in Direction

Now these seemed harsh conclusions, indeed, for a study which began as an attempt to uncover the promise Mr. Cowley's proposed system might hold for improving higher education as a subject of study. The initial analysis seemed to deny any promise.

It was at this stage in the reflection over Mr. Cowley's proposed taxonomy and the initial analysis of it that the new perspective generated in the writing of Part One caught up with the consideration of Part Two and worked a transformation. Later in Education as a Subject of Study (Part One) lay the question of what kind of a discipline could be expected to evolve from conceptions of teaching practice. Certainly not empirical fields of investigation comparable to the disciplines of physics or botany. It would have to be a conceptual discipline -- a discipline of concepts, not things. In answer to the question "What is being classified?" one alternative had been "Concepts." But the tentative analysis had been predicated on the belief that an educational taxonomy would be, in some way or another, akin to the empirical taxonomies of the classificatory sciences. Such was the deception in the word taxonomy.

Possibly Mr. Cowley's proposed taxonomy could be looked at from a different angle altogether. It might serve as an intermediary between the speculative reasoning so apparent in the conceptions of practice assembled in Part One and some future empirical discipline which must await the interweaving of all behavioral science into a web of knowledge at least strong enough to sustain instruction on a basis at least as scientific as the one micro-biology provides for the practice of medicine. In such a case, the attempt to handle concepts according to categories might be looked at as the systemization of a speculative or literary discipline rather than as the failure of a program that should have shown how things could be classified. Instead of being an unsuccessful attempt to design a literal discipline, Mr. Cowley's proposed system might be a quite successful attempt to increase the order in an area of investigation that has not yet reached the literal stage of development, but it wallows adrift in poorly charted intellectual backwaters somewhere between the literary brilliance of essays by Veblen or Ortega y Gasset and the dead statistics in a World Almanac. But this new analysis of Mr. Cowley's proposed taxonomy could not be undertaken merely on the strength of such a supposition. The existence of such a middle ground suitable for improved organization had to be inquired into. It was this inquiry which changed the direction of the writing of Part Two. Instead of attacking Mr. Cowley's taxonomy anew, it became necessary to establish a whole new basis for looking at that proposed system, the field of higher education, and the nature of education as a discipline.

Part One, Education as a Subject of Study, had been responsible for this suggestion of a new approach to the examination of Mr. Cowley's system, of higher education, and of education as a discipline. The conceptions of practice that were assembled in that study provided just the examples of intermediary concepts around which the meaning of the terms literal and literary could be established with reference to a discipline of education. Thus, Part Two continues as a direct extension of Part One and reverts back to further examine the concepts assembled and initially analyzed in Education as a Subject of Study. The main function of Part Two was to provide a new basis for the examination of taxonomies in education, however. Its emergence from Part One and its role as a prerequisite to the renewed examination of Mr. Cowley's proposed system assure that it will remove any gaps that may have existed between these two elements previously. But the issues faced in Part Two are peculiar neither to Mr. Cowley's system nor to higher education as a discipline. They are problems inherent in the development of education, or any aspect of education, as a discipline.

It must be kept in mind that the whole of Part Two in its present form was initiated by the negative results of the initial analysis of Mr. Cowley's proposed taxonomy. Far from being on a different subject, Part Two exists primarily as a stepping stone from which to appraise that system afresh and from a different perspective.

Unfortunately complex problems cannot always be completed in their entirety within assigned time and money limitations. As a prelude to the subsequent re-examination of Mr. Cowley's taxonomy and other taxonomies in education, Part Two stands complete. Part Two is not the analysis of Mr. Cowley's proposed taxonomy or of educational taxonomies. It has taken the full resources of this study grant to carry the project thus far. The bridge has been built, but there has not yet been time to cross it.

A close and fruitful correspondence grows up between the director and the writer of a project such as this. They share in one another's thoughts as well as letter-writing permits. But the tentative analyses which the writer must perform as a prelude to organizing his own thoughts cannot be shared. The decisions which influence the direction research such as this will take are virtually continual, and most numerous during the period of most intense analysis of the problem. At best these subtle matters are poorly understood by the writer himself, much less captured in the gross web of correspondence. Thus the responsibility for deviating from the originally projected course of inquiry in the organization and in the writing of Part Two must be borne entirely by the writer. He alone decides which channels of thought to exhume and which ones to leave virtually untouched in the hope that he may still have time to sift through them later on.

October 19, 1961
Uppsala, Sweden

Charles J. Brauner

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INTRODUCTION

Imitating John Dos Passos, a commentator on the 1950's might open U.S.A. Revisited with the following collection of titles and text:

NEWSREEL ONE

This is the dead land
This is the cactus land (Eliot)

EDUCATIONAL WASTELANDS: THE RETREAT FROM LEARNING IN OUR PUBLIC SCHOOLS

Americans make a distinction, however, between the school learning which increases a man's earning power and the newfangled, dangerous ideas which unsettle his thinking. "Education spoils a good field hand." . . . There's a CRISIS BEFORE US, a CRISIS IN EDUCATION. Much of the elementary and secondary schooling is little more than assembly-line processing with mechanized teaching methods and an intellectual level rarely rising above mediocrity. (Lerner) It's a CRISIS IN AMERICAN HIGH SCHOOLS, A CRISIS OF PURPOSE.

QUACKERY IN THE PUBLIC SCHOOLS

The New Education, it seems, is living, vital, life-related, dynamic, organic, bold, gripping, throbbing, creative, adventurous, rich, significant, forward-looking, thrilling, constructive, child-centered, onward-going, growth oriented, and, of course democratic, with the variant democratizing. The Old Education was dead, passive, meager, traditional, abortive, impotent, static, retrogressive, subject-centered, moribund, inorganic, stale, flat, backward-looking, autocratic, Prussian, Alexandrian, bookish, and / on my oath / intellectualized. (Lynd) HARD EDUCATION OR SOFT. WE ARE LESS EDUCATED THAN FIFTY YEARS AGO. EDUCATION FOR ILLITERACY.

YOUR CHILD IS THEIR TARGET

LET'S STOP WASTING OUR GREATEST RESOURCE

making a

NATION OF ADVANCED PLUMBERS

European schools are neither social clubs nor finishing schools. Their objectives are limited and clearly defined:
They seek to equip the child with all the intellectual tools he can handle: they nourish his mind with as much general culture as he can absorb; and they give his body all the exercise it can take. (Rickover) BACK TO THE THREE R's. This is the WAY OUT OF THE BLACKBOARD JUNGLE. Do away with the DRIVEL POURED OUT as the basis for TRIUMPHANT, CIVILIZED LIVING,

And the wind shifts
and the dust on a doorsill shifts
and even the writing of the rat footprints
tells us nothing, nothing at all
about the greatest city, the greatest nation
where the strong men listened
and the women warbled: Nothing like us ever was.
(Sandburg)

Such a juxtaposition of titles and texts after the manner, if not the artistry, of poetry would capture the drama of a decade in which rhetoric outstripped reason in the mass debate over the public schools. Such an effect, however, provides but scant clues as to cause. If any can be found, causes must be sifted from the pattern of antecedent events in much the same way that the causes of war, depression, theft, and suicide might be uncovered. The explanations may be less than scientific in any narrow sense of that word, yet they may represent the best understanding presently available. More cannot be asked for.

In the United States a considerable volume of writing about education can be identified for purposes of library classification and teacher training. But how much of this material would properly be a part of the literature of "education as a subject of study" is by no means clear. What has passed as a "discipline of education" in colleges and universities as well as in professional meetings and journals has been, in fact, the whole morass of writings -- technical or "popular." This is as if all that gets said or written about human behavior were called either biology or psychology.

Further, an emphasis on utility has led to what amounts to an obsessive search for "practical implications." Psychology and sociology have been combed for clues translatable into directives for the conduct of instruction, principles for the organization of the curriculum, guides to improved administration, and techniques for counseling. In turn, for the most part, educational philosophy more nearly resembles political debate about diplomacy than philosophic scholarship. Thus no matter how skillful and academic the argument, the final justification of the credo will be its implications for practice. Where practical implications are not forthcoming, the attitude is "apology before abandonment."

Implications for practice are the raison d'etre for much of educational philosophy, educational psychology, educational sociology, and just about all of educational administration, supervision, curriculum, and methodology. Designed not as areas of separable knowledge but as special provinces of practitioner training, with rare exceptions they continue as such. Indeed, in the materials catalogued in libraries under "Education," the search for practical implications so far outweighs pursuit of new information that it makes some sense to say that education as a subject of study does not yet exist.

A Question of Quality: The poor performances frequently exhibited by, and accepted from, both students and faculty in teacher preparation and advanced degree programs stand as a severe embarrassment to the American academic world. Teacher training texts, professional articles, dissertations, and published "research" all supply overwhelming evidence that a bureau for the suppression of unintelligent expression might be both benevolent and beneficent. With but rare exceptions, the bulk of what is written about education fails in substance, form, and vocabulary. It fails as scholarship, as interpretation, as communication, and as guidance for instruction. In substance, what begins as if it were an inquiry into human behavior too often ends as a pronouncement on human nature. In form, the attention given to speculation usually outweighs the effort given to observation or to logical analysis. In vocabulary, technical terms imported from other fields soon lose the precision which gave them distinctive meaning and become nothing more than pretentious synonyms for common words. Since less censorship can be imposed on what a professor says than on what he writes, course work in departments of education generally achieves an even lower quality than what they and their graduate students commit to paper.

"Talk" about education needs some yardstick with which to measure out sense so that it can be dissociated from nonsense. This portion of the present study explores the historical traditions of American instruction to see if some basic ground for distinguishing sense from nonsense in talk about education can be found. It does not assume that such criteria have been established by any particular writer or philosophical school. Nor does it assume that the great bulk of what has been written about education must make sense. It does assume that the search for criteria must begin somewhere, and the established historical traditions like Monitorial Method or Object Teaching seem likely grounds for prospecting.

False Hopes: History, genius, interpretation, and opportunity combine in different proportions to mold the institutions of any age. The history of the Darwinian hypothesis and the genius of Herbart mingled in the interpretation with which Charles and Frank McMurry launched American Herbartianism. Without the opportunity which the rapid expansion of American secondary schooling provided, however, this concept of instruction might have remained inconsequential.

As a practical movement becomes powerful, some of its leading concepts get translated into slogans. And such slogans often point to problems which have defied analysis. The solace found in the phrase "families that pray together stay together" suggests both the danger and the fear of divorce. The slogan "peace through world brotherhood" has much the same quality as the educational dictum "an active child is a learning child." Both face the problem summarily so as to provide a working model for all situations. Such general models, however, do not consider that brothers kill brothers or that busy folk may be the most ignorant. Having mistaken the part for the whole, slogans cannot help but be only partial answers.

Yet teacher training often employs more slogans and summary general methods than serious scholarship be it careful observation or analysis. At times a problem appears to be so urgent that the need for immediate summary solutions leads to the wholesale adoption of slogans in defiance of step-by-step analysis. The detailed examination of complex problems takes so long and is itself so involved that the man faced with an immediate practical decision often becomes exasperated. This situation -- when aggravated by lack of training, lack of patience, and the dissatisfying nature of extensive qualification -- make him easily susceptible to the temptation of adopting or accepting a slogan which promises, though falsely, to solve the whole problem.

Such pre-analytic summary solutions offer the practitioner hope with which to face the immediate future and often, to boot, suggests that deeper analysis may not be necessary. When the answer is at hand, why ask the same question again? When, however, the same pre-analytic conclusions parade as the product of deep and careful investigation, they do positive harm to the development of a discipline in the same way that inferior materials and unskilled workmanship detract from the quality of a house. This study attempts to identify certain ways of talking about education as unsuitable for use in a discipline.

How To Begin: A discipline is a protected area, a kind of intellectual game preserve where all who hunt must follow the same rules. At bottom stands the attitude that the area set aside is worth protecting and on the survace exist the rules which the hunters make and enforce. Different preserves harbor different game, and the hunt proceeds by locally defined rules. Beyond this, little can be said of all disciplines; but it suggests that initially the development of a discipline such as physics demanded the same distinctive kind of activity it took to discern a body of "art" from the world's abundant supply of paintings. Whether in "taste" or in cognitive meaning, the initial step involves a judgment that separates the acceptable from the unacceptable.

Assessment and justification are the activities basic to the development of a discipline. Worth has to be assessed, and the choice of what has been assessed as worthwhile has to be justified. The assessment of certain painting as works of art establishes the general boundaries around which the art critic works. The justification of the choices provides him with the basic subject-matter of his discipline, and the way choices are justified makes the discipline. When empirical criteria of meaning is absent, disputes over the criteria by which sense will be sifted from nonsense become crucial. The answer which wins acceptance determines the nature of the discipline. This study searches for such criteria and seeks to discern what kinds of disciplines of education are possible.

In the search for criteria by which to sift sense from nonsense in talk about education, the field of art criticism serves as a convenient model. Sifting sense from nonsense in talk about art may not be much different from discerning sense from nonsense in the literature of education.

Art Criticism and a Discipline of Education: A discipline of art criticism implies a body of art to be criticized. The basic job of the critic involves explaining the elements of works of art and showing, in terms of these elements, what makes them worthy of approval. Similarly, a discipline of education which is not directly empirical must first designate a body of approved practices and then lay bare the elements of practice in order to justify the approval of the particular practices initially designated.

The job of designating a body of approved practices to be submitted for analysis according to their elements and then subsequently to be re-judged according to the criteria thus established cannot be undertaken in a study such as this. The task of selecting practices as candidates for initial approval must be done by some designated body whose credentials and numbers command respect. The opinion of a single unfledged individual counts for next to nothing. Thus this study begins with a handicap somewhat similar to that which an art critic would face if he sought to speak about the elements of art before a duly selected body of art existed. But the first students of the nature of art must have faced just such a situation. Those concerned with education-as-a-discipline confront it now.

Instead of analyzing a body of approved practices for the elements which might suggest the reasons why they should be regarded as worthwhile, this study begins with an examination of practice in general. Hence, the search for the elements of practice sets the initial framework within which sense will be culled from nonsense in talk about education.

Practice and Conceptions of Practice: Art criticism has an advantage over talk about education: initial assessments of particular works of art are specific and sharp. Particular acts of instruction in teaching, in contrast, can seldom be similarly assessed as good or bad. Though art critics differ in their assessments of particular works and change their minds from time to time, they all work with a substantially well defined body of established art. At a given moment, for a particular critic, the body of art of which he approves provides a ready reference against which he can check any new assessment he may have to make. Particular works have been acutely judged, and the great body of approved works has ceased to arouse controversy. The discipline of art criticism has a stable, though by no means static, body of approved practices which critics can analyze for common properties and basic elements.

Except for the viewing of educational television programs and the reading of occasional lectures, the critics of American education do not witness instruction. Judgments of instructional activities have not, for the most part, been made, therefore, on the basis of an exhaustive observation of actual teaching practices. Instead, they have been made on a level of generalization some distance removed from practice. The assessments of worth which lead to the blanket rejection of "progressive education" or the wholesale condemnation of "traditionalism," for example, are judgments passed on conceptions of practice. They are equivalent to saying that since no seascapes can be works of art there is no need to look at any seascapes whether they be by Homer or anyone else. In racial matters such judgments are recognized as prejudices. In politics the same level of judgment comes out in the often heard statement "there's no reasoning with a Communist."

Judgments of conceptions of practice carry the same dangers as those relating to art, race, or ideology. Because of the difficulty of observing actual practice and assessing its actual consequences, some general method becomes a stereotype of practice and, further, some imagined set of outcomes acts as a stand-in for an honest admission of ignorance. So are the Utopian Savior and the Straw Scapegoat molded, cast, exhibited, and judged.

The Literary Nature of Talk about Education: The judgment of actual practice plays almost no part in the development of talk about education. This provides the first clue to the kinds of discipline that can and cannot develop out of the study of education. Whether developed as a part of the existing behavioral sciences or as an independent area of investigation, any discipline of education remotely resembling empirical science would have to be based on the observation of actual practice. Judgments of such practice could be a preparation for the empirical observation of practice. All this would be part of a literal discipline of education. So long as judgments of "conceptions of practice" substitute for the judgment of actual practice, a literal discipline is impossible. Without a literal discipline there can be no prediction or verification in any strict sense. Thus no illusions about theory guiding practice in any manner similar to the way scientific medicine directs the healing arts need be entertained.

When talk about education revolves around conceptions of practice, what makes logical sense may not work, and what seems to common sense that it ought to work may not when tried. Conceptions of practice are, in a very important sense, fictions; and this is what makes them like works of art. Like a mathematical proof, a conception of practice may be both elegant and irrelevant. Like a work of art it may be internally consistent and beautiful yet have little or nothing to do with life in this world. Thus any attempt to build a subject of study upon conceptions of practice instead of upon actual practices leads toward a literary discipline rather than a literal one.

This portion of the study submits the six major historical traditions reviewed in Part One as candidates around which a literary discipline of education can be built:

- Monitorial Method
- Object Teaching
- Herbartianism
- Child Study
- Experimentalism
- Current Academic Emphasis.

These six conceptions of practice will be analyzed in detail for the understanding of basic elements of practice which they might be able to supply. Thus the literary can serve as an initial map of the literal.

A Tentative Definition: Judging the worth of a painting so that others will consider the assessment seriously may well take as much special preparation as judging the worth of a mathematical equation of considerable complexity. In turn, judging the worth of statements in a literary discipline of education may be quite a different matter from judging the sense of statements made in a literal discipline. Further, judging the worth of a practice cannot be compared with judging the worth of a conception of practice.

Four quite distinct levels of judgment must be identified as follows:

1. Judgments of the worth of specific practices
2. Judgments of the significance of conceptions of practice
3. Judgment of the sense of statements for inclusion in a literary discipline
4. Judgment of the sense of statements for inclusion in a literal discipline.

Judgments of the worth of specific practices will not be attempted in this study. Judgments of the significance of conceptions of practice have been made and justified in Part One. The basic idea of the role of major conceptions of practice in the development of American education already explored receives further consideration and expansion here.

To the four major traditions of the nineteenth century previously considered -- Monitorial Method, Object Teaching, Herbartianism, and Child Study -- this portion of the study adds two twentieth century developments: Experimentalism and the Current Academic Emphasis. Taking these six major traditions as significant (much as an art critic inherits the body of art approved for generations before his time), the present inquiry concentrates on the third kind of judgment mentioned above. From a detailed examination of the six major traditions and two general methods of instruction the writer seeks to identify the kinds of statements which deserve to be included in a literary discipline. From the conception of a literary discipline of education thus derived, the project attempts to ascertain how a literary discipline can contribute to the development of a literal one.

In one sense the writer seeks to provide a means by which the presently unmanageable bulk of talk about education can be cut down to a size roughly equivalent to the worth of what it has to say. If the criteria of sense insisted upon were literal, most of what appears in journals, stands on library shelves, and is heard in classes would have to go. But if a literary discipline can be begun, it may be possible to save the most suggestive works and yet not mistake their meaning or importance. Thus the only definition of a discipline possible at this stage of inquiry is as follows: any area of inquiry that develops ever more precise standards of sense and ever more rigorous tests for filtering sense from nonsense.

Rationale: The following set of assumptions and conclusions delineate the concepts underlying what follows:

Assumption: There exists no widely used framework for displaying the concepts most frequently employed in teacher training and broadly regarded as the intellectual substance of "education."

Assumption: No systematic approach to distinguishing sense from nonsense in talk about education exists beyond the individual analyses of concepts such as Dewey has performed.

Condition: Unlike the situation in established empirical science, no single criteria of meaning can be imposed on talk about education, at least at this stage.

Conclusion: The degrees of sense and nonsense must be established from within talk about education rather than through the imposition of criteria appropriate to some already established discipline.

Procedure: Evoking criteria from within talk about education necessitates the comprehensive display of concepts so that analysis and comparison on a grand scale can begin.

Function of This Study: To suggest frameworks for the comprehensive display of concepts appropriate to an understanding of practice; to initiate the analysis and comparison of the concepts; and to suggest the direction in which the establishment of a discipline lies.

Initial Distinction: The difference between literal and literary meaning sets the conditions under which the construction of frameworks, the comparison of concepts, the determination of degrees of sense, and the idea of a discipline of education begin in this study.

Literary and Literal Meaning: The philosophic questions about what is "real" or "true" or "fact" must be set aside in this simple, common sense distinction. The distinction merely represents a simple judgment difficult to make and also to make stick. When an explanation is credited as authentic, factual, or as an actual account of conditions, it can be called a literal description. When, by contrast, it is taken to be figurative and not actual, imaginative instead of factual, metaphorical rather than authentic, then it stands as a literary description. Sometimes the difference is difficult to distinguish. The very literary devices may have such an appeal that a literal account seems lacking in imagination and altogether pedestrian. The savage explains the drought by invoking unappeased demons. The horror of human sacrifice lends support to the view that the savage takes the explanation literally. In contrast, Santa Claus and the Easter Bunny probably have literal meaning for most children at some time but for most of us live only as literary figures.

Accounts of how children learn and how they should be taught have been offered in the past as literal explanations. The failure clearly to fence off the literary parts of those explanations has filled talk about education with countless unexamined and unidentified fictions masquerading as if they had literal meaning. It is as if adults were trying to reconcile themselves with both the hard economic facts of Christmas and still retain the belief that Santa Claus will bring the presents to the good children without cost. As best it can, each age must identify the myths it has inherited. This policing function makes a discipline. Who judges when the policing has been done well enough so that education deserves recognition as an academic discipline remains a mystery. But with virtually no policing, and no distinctions that facilitate policing, and finally, without frameworks for systematic policing, the state of the field is shakey at best.

A Selected Omission: Many controversial psychological theories appear in talk about education. The question as to which of these are literal and which are literary cannot be handled here. This is the policing function of psychology as a discipline. There are indications that such concepts as "super-ego" and "unconscious," as well as the various Greek complexes, are shifting from being taken as literal hypotheses to being taken as literary ones. This study, however, does not grapple with the problem of determining what sense to make out of current psychological theories; but certain psychological doctrines, such as the rational psychology of Pestalozzi or the Herbartian theory of apperception, have been so thoroughly exploded that they can be handled safely. These extinct volcanoes can be charted on the map of talk about education without any great fear that the topography will change radically in the near future.

Framework: A literal discipline must develop from field research into practice whereas a literary discipline emerges from the analysis of conceptions of practice. Education as a subject of study must begin as a library discipline. But even combing sense from books calls for a comb. Some framework suited to analysis of conceptions of practice must be developed if the major traditions are to be examined for their contribution to a literary discipline of education. But the effort here is not merely to build a literary discipline as one might build a discipline of art criticism. The literary discipline should be, if possible, an introduction to the construction of a literal discipline. The framework, then, must do double duty. First, it must act as a skeleton on which the flesh of a literary discipline rests. Second, the skeleton must be so constructed that the finished product can act as an assistant to a literal discipline as yet unconceived. Thus, the framework must emerge as much from an examination of the conditions of actual practice as from an examination of the conceptions of practice. It is this dual requirement of internal logical strength on the one hand and utility on the other that makes it necessary to begin the study with an analysis of practice. In a sense, the analysis of practice is the foundation that assures that the house will be built along liveable lines rather than as a decorative monument.

This search for a strong yet useful framework proceeds through the following seven parts:

Chapter One: Perspective: Practice in Context

Chapter Two: An Initial Framework of Practice: Instructional Space

Chapter Three: Fictional Hypotheses: From General Method to

Polar Concept

Chapter Four: Framework for Classifying Concepts: The Conceptual Network

Chapter Five: Classifying Six Major Historical Traditions

Chapter Six: Polarization: The Defect of Literary Talk

Chapter Seven: The Profile: A Natural System

Chapter One identifies five changes which have determined the character of educational practice in the United States and thus set the context within which a discussion of education as a practical discipline must be framed. The changes are in:

1. Available information
2. Tolerated behavior
3. School clientele
4. Teaching personnel
5. Purpose

Chapter Two erects a model of instructional space from the dimensions of practice apparent in major changes described in Chapter One. The dimensions of the model are as follows:

1. Deportment -- elbowroom vs constraint
2. Organization -- spontaneity vs sequence
3. Activity -- ostensive vs didactic

Chapter Three clears the way for the examination of major historical traditions in the light of the model of instructional space by disposing of literary hypotheses which have obscured the discussion of practice. The writings of five men in two areas of intellectual activity are analyzed:

1. Pedagogy
    1.1 William H. Kilpatrick
    1.2 Walter S. Monroe
    1.3 H. B. Alberty
2. Art Criticism
    2.1 I. A. Richards
    2.2 Yvor Winters

Exposure of the fictional hypotheses, in particular by Alberty and Gilbert Ryle, clears the way for the classification of concepts of practice.

Chapter Four proposes the "conceptual network" as a neutral instrument for displaying the major historical traditions which have influenced practice. The conceptual network dissects talk about education along the following lines:

	Individual	Instructional	Institutional
Intra (within)			
Inter (among)			
Super (beyond)			

Chapter Five classifies the major historical traditions according to the conceptual network and with an eye to their significance for the model of instructional space sketched earlier. The six historical traditions are:

1. Monitorial Method
2. Object Teaching
3. Herbartianism
4. Child Study
5. Experimentalism
6. Current Academic Emphasis

Chapter Six examines the display of historical traditions which classification according to the conceptual network affords. This search for negative tendencies uncovers three principal pseudo-disciplinary characteristics:

1. Fictional causal hypotheses
2. Analogic hypotheses
3. Polar concepts

Chapter Seven examines the same display of traditions for suggestions useful in developing a literary discipline. Expansion of the model of instructional space in accordance with the concepts displayed in the conceptual network suggests two useful frameworks:

1. The System of Natural Classes
2. The Profile -- Historical Traditions in the System of Natural Classes

Stated as briefly as possible, analysis of talk about education in terms of the Profile would result in the classification of ideas according to common sense categories suitable for the discussion of practice. Sense would be determined, with reference to practice, an excellent beginning point in a discipline of education.

CHAPTER ONE

PERSPECTIVE: PRACTICE IN CONTEXT

Those who would understand American education must look to major historical, economic, political, and philosophic developments within the society itself to see the forces that lash the seas on which instructional practice must float or perish. Such knowledge, however, does not necessarily lead to sound action. Awareness of population expansion, for example, has not always resulted in the provision of adequate classroom space. Ignorance of the problem could be catastrophic. Matching pupils to seats requires as detailed a knowledge of classroom space and cost as it does of population size, composition, and expansion.

The obviousness of the trend toward automation and the probability of increased leisure in the future have resulted in an emphasis on occupational skills, on the one hand, and recreation skills, on the other. The equally obvious threat of Russian political and scientific ascendancy has reversed the emphasis and put academic subjects, especially mathematics, physical science, and foreign language, at peak priority. Shallow expedients quickly put forth as a society's most pressing need are bound, however, to be superficial and incomplete when they derive from a panic-stricken shortsightedness which mistakes exposure of the most obvious part of the problem for a complete examination. Such inquiries into the problems facing American education fail to examine the many and complex forces at work in the long run of social development and can too easily conclude that the Communist threat demands that certain books be removed from school libraries. Such shortsightedness sees no threat to freedom of speech, inquiry, and opinion in that kind of censorship.

John Dewey has had a lasting influence on American education because he welded his detailed inquiry into the many facets of social and philosophic issues to key elements of classroom practice. His understanding of practice had to be as many sided and as thorough as his understanding of philosophy. Looking below the obvious he saw clearly that mere occupational training, simple recreation, and the technological problems of an industrial society meant relatively little when set against the difficulties of communication in a society sustained by machines and in danger of becoming dominated by them. In the face of such a moral problem he attempted to show how the classroom could be used to initiate inquiry of a new sort. Collective and cooperative decision-making were offered as general models of instruction and *patterned after what seemed to be a method* common to all science.

Unlike some of his followers, Dewey realized that the techniques for implementing such instruction would have to be thrashed out by trial and error in the classroom. His experimentalist pedagogy simply attempted to set forth some of the ground rules by which the trials could be made somewhat systematic and the quantity of error minimized. That search for ground rules led him to explain the parallel between freedom of inquiry and expression in the classroom, in empirical science, and in the open democracy. Though "democracy in the classroom" soon became a slogan and eventually became the subject of ridicule, the original conception had considerable meaning because it developed in connection with a detailed analysis of the conditions of practice. It was his inquiry into the elements of instruction which preserved Dewey from the error of building a grand intellectual structure with no foundation in practical social action -- in this instance the institution of public instruction.

It is no reflection on the quality of work done by men such as Plato or Hobbes to say that apart from reflections on human nature their comments on teaching did not result from analysis of instructional practice. As with afterthoughts or with a priori convictions, statements without detailed grounding in an analysis of practice cannot occupy a central position in a practical discipline. Classic as their comments may be, Plato and Hobbes, for example, cannot be looked to as the source of even a literary discipline, though they need not be ignored.

Talk about democracy or morality, no matter how fine as philosophy, as law, or as political science, must remain "general" so far as education as a discipline is concerned unless it occurs in conjunction with, and as an integral part of, some analysis of practice. Such general talk belongs no more to a discipline of education than Joyce Kilmer's Trees belongs to the science of botany. Poetry, bad or good, cannot be pressed into service as science, and general statements cannot serve where specialized ones are called for. A proper analysis of practice may provide the basis for converting a general statement into a specialized one just as the proper training may turn a civilian into a tail-gunner. But conversion is required, and only inquiry into practice can extend the hope of utility.

The Principle of Utility: Disciplines can be merely descriptive, they can describe in order to predict, they can follow rules to logic-tight conclusions, they can be purely appreciative, or they can be primarily utilitarian. Description for its own sake and description for predictive purposes both demand an uncompromisingly literal discipline, but as yet the behavioral sciences cannot yet provide education with such a foundation. Languages and systems of numbers can be treated as purely logical systems; but since its whole import is substantive, education cannot. So the choice is whether a literary discipline of education will be primarily appreciative as painting, sculpture, and music may be viewed, or whether it should be primarily utilitarian, as medicine and architecture may be viewed. Even if it cannot be literal, it can strive to be useful.

Application of the principle of utility suggests that talk about education, central to the development of a literary discipline, must emanate from an analysis of practice and lead to conclusions about practice. The literary discipline is to be practice-centered, but not narrowly so.

Again the parallel between education and art criticism serves well. Legitimate art criticism must be clearly traceable to the direct examination of actual works, and to be complete it must result in implications for the examination of subsequent works. Many excellent biographies with provocative psychological theories about the kind of complex that led this painter to portray harlots instead of ballerinas drop through the net that sifts art criticism from the broader body of talk about painting. Similarly, many provocative philosophic, psychological, sociological, and political considerations must remain peripheral to education as a discipline until an examination of practice makes them relevant. Without a clear link to practice they remain general and hence belong properly to their own special discipline. It is the absence of just such a connection to practice and the disinclination of specialists in psychology and sociology to examine practice itself that makes it impossible for departments of education to get more than casual help from specialized disciplines.

Practice in the Broad -- The School Revolution: Imagine an inquiry into American society which overlooked the Industrial Revolution. How could a discussion of the population crisis proceed without reference to changes that have taken place in medicine and contraception? Criticism of the American school system often ignores changes that have had as profound an influence on instruction as atomic weapons have had on warfare. Five such changes which add up to a school revolution are:

1. The change in available information
2. The change in tolerated behavior
3. The change in school clientele
4. The change in teaching personnel
5. The change in purpose

The Change in Available Information: Available factual information has increased by the square, and recently by the cube, over what it was when American public schooling began. Present library techniques for cataloguing information seem to be approaching the limits of utility. The greater amount of information means that more must be mastered if command of an activity or area of inquiry is to be thorough. As each specialty grows, the longer it takes to master it. Students feel the pressure to specialize earlier and earlier. Having specialized, they find it ever more difficult to change from one area to another.

To be efficient in passing on the information needed for mastery of a special area of investigation, instruction must be packed tightly with factual information. Books must be written along new lines in order to minimize outworn, incomplete, erroneous, and insignificant concepts while at the same time maximizing key information and ideas. Each generation has more to learn than its parents. Yet it is inevitable that course content and books will lag behind the best available information because it takes time to prepare them and more time to get new approaches accepted.

As the amount and complexity of information grow, the gap between what is known by specialists and what is learned in school increases; and as the gap grows so does the alarm of specialists, teachers, and parents. Teaching seems to decline in quality as the difficulty of communicating complex concepts increases. The solution seems to be in getting experts to explain the subject simply and clearly by means of text, tape, movie, television, or teaching machine. Then if the students do not get it, it's their fault; at least the correct information had been broadcast. Forced feeding of compact information packages by intense bombardment becomes the operating policy. Yet the changes in tolerated classroom behavior have made this difficult.

The Change in Tolerated Behavior: While the technology for force feeding information has grown, the techniques for making youngsters endure such feeding have been restricted. In the name of humanitarianism child labor has been outlawed, spanking frowned upon, ear-boxing eliminated, mouth-washing with soap abandoned, and left hand writing permitted.

To further upset the program of force-feeding information, youngsters were encouraged to ask questions, to dispute opinions, to contest fact, and even to complain. Instead of remaining a place to absorb and recite, the classroom became the place where neatly packaged bundles of content were unwrapped and where children rummaged around in the parts.

Even so, the change in behavior tolerated by teachers failed to keep up with the changes recommended by specialists in the study of human behavior. By the time teachers learned to tolerate a silent youngster in the back of the classroom, psychologists were urging that he be regarded with suspicion and brought into the circle of social activity. Just as factual information outstripped instructional content, so did behavioral science outdistance efforts of teachers to modify their attitudes toward student conduct. Teachers had barely identified slow, average, and fast readers when they were urged to let each child proceed at his own rate. As the understanding of human behavior advanced, and as different segments of behavioral science splintered off the main trunk like branches on a tree, the specialists could see that practices in the schools were falling behind understandings attained in science.

Each invitation to question a matter of fact and each division of the class into slow, average, and advanced slowed up the force-feeding of information-packed, prefabricated lessons. Both the change in content and the division of classes into groups became increasingly necessary because of the change in clientele served by the schools.

The Change in School Clientele: Just as the Supreme Court decision to end segregation in public schools was the tardy legal backbone which would give strength to Lincoln's Emancipation Proclamation, so was the inclusion of all youngsters in the public school the tardy institutional realization of the sentiment expressed in the Declaration of Independence. Political expedience aside, acts like the Emancipation Proclamation have a certain mechanical property which contributes to their significance. Slaves were declared free in the middle of a war with little consideration of their capacity to enjoy their new status and with no provision for their survival. In the same way, new African nations have been granted autonomy even though they lack the economic facilities, the political institutions, the leadership, the military organization, the agencies of welfare, and the experience to be assured that they will survive at all, much less survive as nations in a climate of political cannibalism. In the same mechanical way American education set out to serve a new clientele.

As the twentieth century got under way, more and more youngsters were herded together into classrooms and held there for longer and longer periods. Youngsters had to occupy seats regardless of their capacity to profit from the instruction offered them. No one could insure that youngsters would master the lessons presented or even benefit from their presence in school. But as the youngsters filled schools to overcrowding, the percentage in any class who could be expected to benefit from forced feeding declined considerably. Just as emancipation made freedom a fact long before it became an actuality, so did the clientele revolution become an actuality with the physical presence of the youngsters. Its success has not yet been assured.

Since the situation was novel, students and teachers had to work things out for themselves without the benefit of precedent known to be useful. The only unalterable factor was that teachers had to keep all the youngsters sent to them. This ground rule meant that something had to be found for each youngster to do and that something could not be the continual dispensing of factual information.

It seemed unreasonable to assume that all youngsters could master the informational lessons prefabricated for the top ten per cent in academic ability. As the supply of information to be mastered grew even greater and more complex, the school presented less and simplified what it did present so that the average student could grasp and hold it. Further, the new generation of students would not sit still and listen the way more able youngsters had submitted to their teachers in earlier years. Some of the more effective methods for holding them still had been banned as brutal, and many others which parents frowned upon could not be used. The new clientele included parents as well as more youngsters, and what they wanted and would allow became increasingly influential.

As control became more difficult, the instruments available grew weaker and fewer. The way out seemed through something everyone could do and most would do voluntarily. On this cue in walked the self proclaimed Messiah: audio-visual aids. Advanced advertising boasted that the aids could present information simply, clearly, and precisely while holding interest through clever programming. In many cases, however, the information all could master was trivial, was informationless. Thus teaching by projector became entertainment which provided only a modicum of interest in an oversimplified idea made trivial by its isolation.

Teachers with less concern for information that all could master and with more concern for activities all could perform, explored projects, field trips, camping, and such socializing activities as dancing. The diversity of activities necessary on a camping trip or in putting on a play assured a wide range of things to do. And in that broadened range it was hoped there would be something everyone could, and would want, to do. It seemed reasonable that by cooking a meal or by painting some scenery each child could benefit socially by contributing to the group effort. But further, there was the hope that the fun of camping or the excitement of play production would turn a hitherto lethargic child into a curious and interested student. Briefly, there seemed to be a naive faith that academic interest in subjects such as history, mathematics, or literature would rise as spontaneously and as unanimously on contact with the proper project or activity as interest in swimming, dolls, or foot-ball. That it did not happen proved a great disappointment. Part of the reason it failed to happen for some was that teachers did not have the academic background necessary to make such subjects exciting. There had been a change in personnel that paralleled that in clientele.

The Change in Teaching Personnel: The increase in numbers of students in school called for a proportionate increase in the number of teachers. With the bulk of college trained talent being absorbed in business, in medicine, in law, in engineering, and in government service, around 1900 the supply of new teachers could be found only by digging deeper into the barrel of talents.

As information grew in volume and complexity and as the problem of maintaining control over youngsters became more difficult, teacher preparation had to take in candidates for teaching who had less capacity to master complex concepts and less talent for maintaining discipline. Normal schools, teachers colleges, and departments of education had to initiate their own courses in mathematics, physics, history, and literature to protect teacher trainees from the stiff requirements of such courses in the liberal arts colleges or sections of the university. Thus the prospective teacher was exposed to less of the available supply of information and expected to master less than his counterpart in the liberal arts program. As attention to projects and to social activities replaced some of the academic content in teacher training, the gap between what the man who was training to teach history or literature and the liberal arts major in those subjects grew to embarrassing proportions. Teachers college and department of education graduates earned a reputation as inferior students; and on top of that they were given such oversimplified explanations of key concepts in such fields as physics and literature that when they did master what they were taught, they often embarrassed themselves in exhibiting what they had learned.

Accurate simplification and significant selection of the most important parts of a subject demand a thorough mastery of content rather than a diminished command. Bargain basement trainees in a cut-rate program thought they were studying history, economics, and physics. They mistook the oversimplified generalizations drawn from summaries of the subjects for the real merchandise. Thus they passed on the same generalizations (or even more simplified versions of them) to their students in the public school without being aware that a whole order of understanding and information not available to them as teachers constituted the basic content of the academic disciplines. Though it be mere conjecture, this or some similar avenue seems to be the way in which scholarship deteriorated in both teacher training and public instruction.

Scholarly information and concepts continued to grow more complex and harder to teach. More and more students of reduced academic ability had to be taught. Teachers with less command of the content and with less talent for presenting what they had learned in simplified form kept increasing in number. Ever more oversimplified generalizations replaced command; arrogance often exhibited itself as the other face of ignorance.

The Change in Purpose: So long as schools taught only the top ten percent in academic ability, the majority of whom came from families with comfortable economic and social positions, scholarship, like art and virtue, could be its own reward. With social position assured and economic matters well in hand, taste and understanding became the playing field on which the able sought to demonstrate their superiority. When material differences can be ignored, intellectual distinctions can be pursued intensely.

The middle and lower economic classes had many material, financial, and social "wants" to satisfy; and they usually insisted on knowing how what they were expected to do would lead to the satisfaction of these wants. As the new clientele from the lower and middle income classes filled the schools, education for its own sake could no longer satisfy parents or students. Least of all could such a justification extract the financial support public schooling required. Education for economic and social success made more sense to the new clientele. Education for the success of democratic government made some sense, but it remained to show in tangible terms what such a program would yield and how it would work. In the narrow sense, increased spending power provided the best justification of public schools. In the broader view, increased security and welfare held a strong appeal.

When academic work as apprenticeship for material gain replaced scholarship for its own sake or for reasons of social prestige, mere information could not survive in the schools. Information had to be useful beyond pedantic demonstration at social functions. It had to fit into the larger framework of job training and work performance. Scholarship for curiosity sake had held Latin at least equal to mathematics, and taste was not to be disputed. The utility of mathematics in engineering and the importance of chemistry in agriculture as against the declining utility of Latin in medicine and botany set the order of priority.

The vocational guidance and occupational training programs so important in the 1930's dramatically illustrate how this emphasis on the utility of schooling could be turned into a shortsighted expedient under the intense pressures of the depression. The importance of getting a job after leaving school became so urgent that academic subjects seemed almost a luxury which could not be afforded.

The change in purpose from academic to vocational cannot be dissociated from the changes in personnel, clientele, tolerated behavior, or available information. It seems unfair to accuse vocational training of driving scholarship from the schools. Once teachers no longer imported it in relatively pure form, the decline set in. When students could no longer cope with the academic subject matter that teachers did bring into the program, vocational training was one of the few things available to fill the vacuum. Yet able teachers and able students have always kept islands of scholarly learning afloat in the rising tide of non-intellectual school activities. It may be difficult, indeed, to find a healthy academic program that has been smothered by commercial interests. More often, Latin, ancient history, and trigonometry have decayed, become archaic, or grown spitefully difficult thus losing out to home economics, driver training, music, art, or shop by default. Many factors went into the change in purpose and the problem of determining which ones were most responsible is at least as difficult as figuring out what made

Hemingway commit suicide.

Historical Necessity: The contexts within which practices in American public schools have changed resemble the old spiritual about the "wheel in a wheel way in the middle of the air." Changes in information, tolerated behavior, clientele, personnel, and purpose have added up to a revolution in practice. The search for something that everyone could do and benefit from could not take place in isolation from the forces acting upon society and hence upon the attention of the public. The depression of the thirties set the basic economic and social context in which the revolution in practice matured. All students needed as much preparation for work as they could get, and everyone had to learn to adjust to new circumstances and one another. To have ignored job training during the depression would have been impossible. Public schools were the only available institution for reaching all youngsters over an extended period of time. To have ignored social adjustment would have been almost as difficult. The practical revolution has its own internal forces which bring it to boil, but the forces which surround it in the society at large give direction to the whole movement and determine how the internal forces will develop.

It is one thing to protest against sin, cancer, alcoholism, and appeasement. It is another thing to try to understand any one of them sufficiently to guess at the causes and change the conditions in such a way that changed behavior ensues. Evangelists who would have us repent the sins of American educational practice have neither the patience nor the talent to analyze the situation so as to distinguish between the arbitrary and the inevitable. The passion that leads to wholesale condemnation does not nourish careful examination. It remains true, however, that the worth of the recommendation is directly related to the depth and care of analysis.

It may be true that by 1945 vocational training, physical training, competitive athletics, social adjustment courses, and watered-down subjects had formed a non-intellectual (even anti-intellectual) impaction in the system of public schooling. But the cure recommended will depend upon whether the ailment is viewed as a conspiracy, an accident, the result of improper diet, the consequence of emotional upset, or the inevitable malfunction of an organism at a certain stage of life.

Was it wrong to bring virtually everyone into the public schools? With most youngsters in the appropriate age groups in school, was the mistake attempting to keep them there? Should they have been kept there and somehow forced to work even if they could not expect to master the lessons? Was the search for something that everyone could and would do ill advised? Given the new clientele, should the schools have continued to operate with the old personnel? Given the depression, should the new personnel have insisted that Latin and ancient history remain cornerstones of the curriculum? To what extent was historical determinism at work in the school revolution?

The failure to analyse forces acting upon the school revolution and within it led, first, to exaggerated hopes of what it would achieve and, second, to excesses of recent discouragement. Just as ignorance of the forces behind the Castro revolution in Cuba led to early optimism and current pessimism, so did Americans overestimate and then underestimate what their school revolution could do. Many recommendations for instructional practice have been as foolish as most New Year's resolutions.

No final answer to the question about how much historical determinism influenced the school revolution can be given. It is sufficient to realize that the only place answers can be found is in the historical forces at work. But not all historical developments can be taken into account. Hence, the five elements of the school revolution provide the immediate context for understanding how practice developed. They set the perspective for an initial framework which will mediate between actual practice and historical conceptions of practice. That framework will be the skeleton of a literary discipline of education: instructional space.

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CHAPTER TWO

AN INITIAL FRAMEWORK OF PRACTICE: INSTRUCTIONAL SPACE

> What is involved in a scientific structure? A novel? A tragedy? A well-designed machine? What is involved in conceiving them? In realizing the conception? Such researches would not be immediately fruitful, for they are a far cry from early efforts at comprehending intellectual effort and from current inquiries into emotional circumstances and conditions. The necessary premises and frames of reference are yet to be constructed. Such research would also, undoubtedly, give rise to its own congeries of partial truths. But only in this way can we eventually hope to give a full set of dimensions to doctrines in psychology.
>
> Finally, since it takes two to make a corruption, there is a contribution to be made by the working teacher and administrator in our schools. They can bring common sense to bear on bright and shiney doctrines of behavior, the common sense that warns us that, about things as complex as the human person and human society, short and simple generalities must be either empty, false, or incomplete.[1]

In their efforts to explain instruction simply yet comprehensively, educators have looked more deeply into existing concepts than into the classroom. Teachers have been told that if they look on the world as a philosophic Realist they will be led to a set of practices different from those performed by Idealists, Scholastics, or Pragmatists.

In the metaphysics of these four educational philosophies rests the critical confusion between literal and literary meaning that has kept education as a subject of study from developing into a discipline of one kind or the other. Those who argue that the universe is really made up of material stuff believe they have struck the bedrock from which to build a literal discipline. The accounts of reality put forth by Realists, Scholastics, Pragmatists, and Idealists are not regarded as poetic analogies but as literal accounts of the nature of things. From assumptions taken as literal knowledge they presume to build a literal discipline, and the best each can do for the other is grant his concept of reality the literary status of a provocative fiction. Each camp sees itself as the only literal discipline surrounded by three literary ones. This study stands outside all four and looks on each as stemming from a suggestive poetic analogy having little utility for even a literary discipline of education.

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[1] Schwab, 1958: 10.

If philosophical schools have anything to do with classroom instruction, at least they have no more to do with instruction than with any other phase of human activity. Only the Scholastics seem to have realized this. Yet all remain general because they do not begin and come to rest again in an analysis of practice. If they constitute the major content of education as an area of intellectual inquiry, this may be excellent evidence that no special discipline has yet been designed.

An Alternate Matrix: Philosophies of education which begin with the metaphysics of the major academic schools and work from those analogies through epistemology and axiology resemble meteorites. Coming in from outer space, most of them flash brightly in the rare atmosphere and burn out entirely so that nothing ever reaches the ground.

Their impact on practice remains small even though they often stir up great debate.

The alternative to beginning with the rarified abstractions of metaphysics, epistemology, and axiology is to begin with an analysis of practice and the conditions which immediately surround it.

An Overview of Practice: Even the brief overview of the school revolution presented in the last chapter can set the stage for an analysis of practice. The five factors of the school revolution -- information, behavior, clientele, personnel, and purpose -- offer clues about the nature of practice. These clues can be summarized as follows:

1. Growth in Available Information:

   1.1 The gap between what is known and what can be taught threatens to grow.

   1.2 The increased complexity of concepts makes teaching more difficult.

   1.3 Suitable simplification will take time, money, and above all talent.

2. Change in Tolerated Behavior:

   2.1 Prefabricated lectures and fact-cram drill must continue to leave room for interest projects and question-answer discussions.

   2.2 Severe techniques for coercing students cannot be reinstituted.

Like a horse led to water, the student can be led to lecture but he can't be forced to learn. If he cannot be engaged in discussion, it might be possible to involve him in some construction project and then work back to an interest in the subject itself. Unfortunately, projects too can become activities for their own sake.

3. Change in Clientele:

    3.1 The average and below average ability youngster is in the school to stay.

    3.2 Materials and concepts must be simplified for them.

    3.3 The control of pupils will, by and large, have to be taken care of within the classroom.

    3.4 The clientele expect to be told the utility of the lessons taught.

4. Change in Personnel:

    4.1 Teachers with a diminished command of subject matter as compared with liberal arts graduates will continue to be the rule.

    4.2 Mere survival in the face of disciplinary problems will continue to be a major problem for many teachers, and others will have to struggle to get across minimal amounts of information.

5. Change in purpose:

    5.1 Something will still have to be found for everyone.

    5.2 Vocational training, physical training, and such practical courses as home economics will continue to hold a place in the curriculum.

Here, then, are some simple but specific postulates about practice in the public schools. Each is open to dispute and to refutation. Each may be wrong, but the seriousness with which they must be taken depends upon the care that has gone into their formulation and justification. They come from no special, explicit framework, yet their relevance to practice is obvious enough. It is how they would relate to any philosophic analogy about the nature of reality that remains in doubt. Such abstractions serve pedantic, not practical, ends.

The conclusions presented in this brief overview of the conditions of practice need not be accepted as valid in order to identify the elements basic to an analysis of practice. By extracting such basic elements of practice, it will be possible to construct an initial framework for examining conceptions of practice; and such a framework has the possibility of meeting the criteria of utility. Thus even a literary discipline can be looked at for the suggestions it has for enlightening the outlook on actual practice if the initial framework provides for explanations in terms resembling actual classroom conditions. Instructional space is such a conceptual framework.

The Hierarchy of Abstractions: The kind of discipline sought will determine the nature of the framework needed, and the kind of framework employed will determine the kind of discipline to emerge. As the preceding discussions of practice indicate, discussion can proceed at many levels. Now it is time to select the level of discussion most appropriate to a practice-centered literary discipline.

Five principal ways of talking about education have received considerable attention. They are as follows:

1. Philosophic Schools -- Idealism, Scholasticism, Realism, Pragmatism.
2. Broad Intellectual Movements -- The enlightenment, social Darwinism, cultural relativity, operationalism in truth and values.
3. Societal Developments -- The frontier, the Industrial Revolution, hemispheric solidarity, the depression, the cold war.
4. Conceptions of Practice -- Monitorial Method, Object Teaching, Herbartianism, Child Study, Experimentalism, Current Academic Emphasis.
5. Changes in Practice -- Information, tolerated behavior, clientele, personnel, purpose.

The philosophic schools operate at the highest level of abstraction when they speak about the nature of all reality in terms of a particular metaphysical analogy. The broad intellectual concepts attempt to trace forces that have operated influentially throughout the world over centuries. Societal developments are more restricted in space and time. Conceptions of practice represent the broadest level of abstraction in direct contact with actual instruction. And changes in practice come closest to the level of literal description of what actually has happened to practice. The concept of instructional space is an attempt to build a framework that will slide between stages four and five on the above descending hierarchy of abstraction and thus provide an instrument with which to relate conceptions of practice to actual changes.

The Concepts in Instructional Space: The changes in practice previously outlined bring three elements of instruction to the foreground. The change in available information accents the difficulty in organizing and presenting content. The problems of discipline and control lurk all through the change in tolerated behavior. Behavior, clientele, and personnel changes have made deportment a major issue in the public schools. The changes in clientele and personnel come to a focus in the change of purpose and cast doubt on the kind of activity most appropriate in a public school system. Projects and vocational training represent changes in the kind of activity encouraged in school. The deportment of the child, the organization of content, and the activity most appropriate for learning constitute the dimensions of instruction most crucial to an understanding of contemporary practice. A framework built along such lines has the best chance of extracting useful ideas from literary conceptions of practice.

In one sense, deportment, organization of content, and kind of classroom activity have always been central dimensions of instruction. They have not always, however, been the subject of disputes which gave depth to pictures of practice. When youngsters could be held still and force-fed lecture or when text book lessons could be repeated on demand, the picture of instruction seemed settled. Inquiry into the effects of control over conduct on learning opened up controversy over what kind of deportment was necessary, what kind of organization best, and what kind of activity most effective. Speculation on the dimensions of each facet of instruction can begin with some of the distinctions already in widespread use.

The fact that youngsters require firm direction at one time yet benefit from being allowed to do as they please at other times has filled child rearing discussions with disputes over whether constraint or elbowroom makes the best general policy. Simply stated, constraint was often found to be necessary, yet elbowroom often seemed desirable. Too quick a jump from such a practical generalization to "confining authoritarianism" and "oppressive fascism," on the one hand, or "liberating freedom" and "equalitarian democracy," on the other, has given the intellectual "bends" to many a discussion about instruction. Yet it makes sense to say that the classroom atmosphere, regarding deportment, can be one in which constraint is enforced or elbowroom encouraged. It does not automatically follow that constraint must be equated with excesses of authority or with the social philosophy of fascism. Nor need elbowroom be democratizing.

Related concepts have been applied to the organization of content. Certainly, at some stage, information had to be put in some logical or chronological sequence to be available for efficient mastery. But the sequence suitable for college instruction may not be the sequence most suitable for secondary schools. The organization useful for writing a text book may be different from that used in developing a lecture. One way or another, sequence in the organization of instructional content has always been important. From another angle, however, all sequence and no innovation makes a dull lesson, indeed. One reason why classroom instruction has always held more promise than textbooks is that the teacher can capitalize on things that come up on the spur of the moment and stimulate interest in the subject by adapting to local conditions. The key to a lesson that makes such adaptations is the flexibility that enables the teacher to use the spontaneous developments and organize instruction around them.

Spontaneous organization, like elbowroom, often seems desirable, and sequential organization, like constraint, is often necessary. No planned sequence can account for the chipmunk that a youngster brings to class because he found it injured as he walked to school. Each day youngsters ask spontaneous questions around which instruction can be organized. Yet few programs are designed to do away with sequential organization entirely. Sequential organization does not necessarily, however, mean slavish reliance on established authority; nor does spontaneous organization automatically assure widespread and enduring student interest.

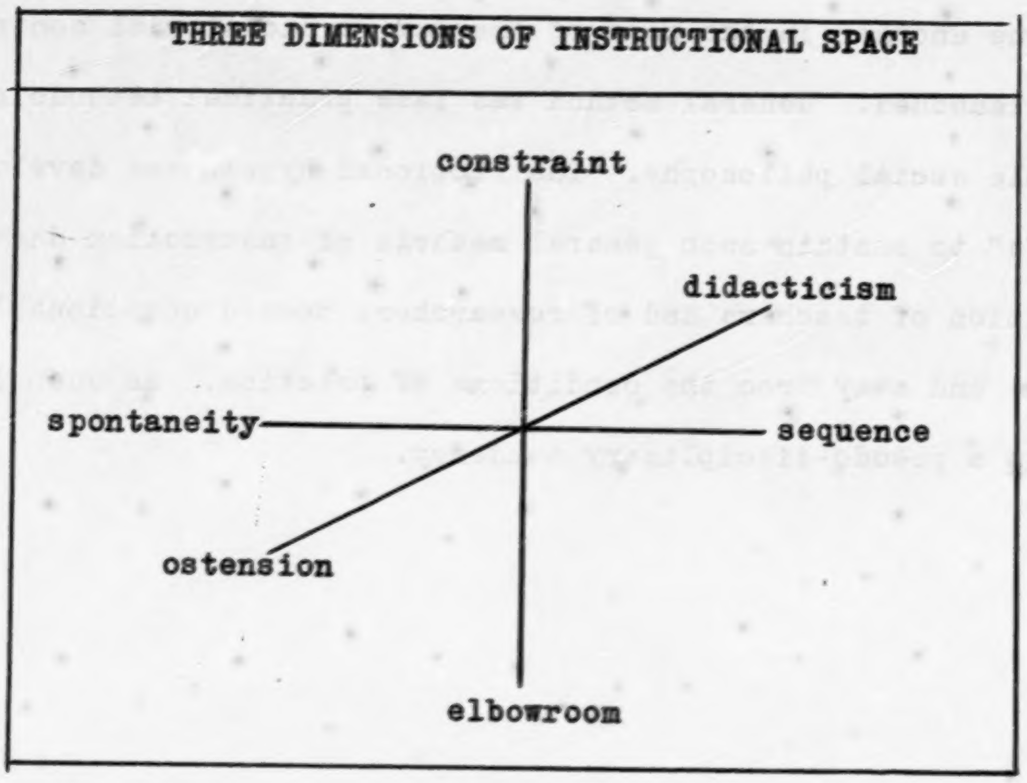
Finally, concerning the full supply of information and concepts a youngster acquires from infancy to adulthood, some is told him straight-off and some he finds out for himself from direct contact with things and through his activities. Much of his introduction to language is didactic from the "don'ts" his parents prescribe to the primitive classes with which he divides the world into houses, birds, and horses of different colors. Yet this early cataloguing into classes occurs as he swims through the world of experience with his senses open like pores in the heat. Parents present over and over the class names he must paste on experience in order to speak as they do. Gradually he figures out for himself the limits of one class and the beginnings of the next and thus becomes an ever more acceptable member of the speech community. Parents provide the didactic instruction in the form of class names, and the world of his contacts is rich enough for him to find the working limits of the major classes in daily use.

More complicated abstractions like love, honesty, beauty, and eternity often have didactic utility for naming facets of experience lacking clear cut boundaries. Didactic instruction, under such circumstances, can become circular. One abstraction is explained by naming several other abstractions. In such a case, if more than rhetorical meaning is intended, the circle must be broken and some contact with experience must be re-established. Didactic instruction confronts the individual with the abstraction first and direct, often before he has established contact with that which the abstraction refers to. Didactic "telling" is one kind of teaching activity, and it is often necessary.

Ostensive activity reverses the instructional situation by putting "showing" ahead of "telling." Firsthand contact with things and involvement in activities becomes the instructional activity wherever possible. Direct contact with particulars rather than with abstractions is the rule. Advocates of ostensive activity expect that it will facilitate, first, discovering meaning and, second, fitting abstractions to experiences actually undergone. Whether discovery or recognition result, instruction and not the abstraction organizes the contact.

Ostensive instruction takes language for granted as the enveloping medium rich enough to provide whatever abstractions are needed to classify firsthand experiences. Didactic instruction takes firsthand contact with things and involvement in activities as the enveloping medium rich enough to provide the experiences which fill the abstractions with meaning. Undue emphasis on either ostensive activity or didactic activity upsets the symbiotic balance necessary for a healthy learning environment.

Dimensions of Space: Deportment, organization, and activity are three dimensions of instructional space. Constraint and elbowroom give scope to deportment. Sequence and spontaneity give depth to organization. And didacticism and ostension extend two sides of activity. Together, these opposite tendencies in each of the principal dimensions give the following simple model of instructional space:



THREE DIMENSIONS OF INSTRUCTIONAL SPACE

This modest model assures that the analysis of conceptions of practice can be conducted in terms relatable to actual instruction. Previous models of instruction developed as general methods have had the main force of their emphasis directed at the philosophic concepts and broad intellectual concepts in which talk about education had been framed. The general methods of project instruction and of problem solving as developed by William H. Kilpatrick illustrates this tendency to speak about education more in terms of intellectual abstractions than in terms of classroom operations. In attempting to provide a general method for all instruction built out of ostensive activities called projects, Kilpatrick quickly moved the discussion to psychological and philosophic considerations. Ostensive instruction became necessary for democratic living, and from such a high level of abstraction the disputes that pitted polar opposites against one another in the name of freedom vs dictatorial control could be launched. General method was less practical methodology than simple social philosophy. The fictional hypotheses developed as "proofs" to sustain such general methods of instruction directed the attention of teachers and of researchers toward questionable abstractions and away from the conditions of practice. As such it represents a pseudo-disciplinary tendency.

CHAPTER THREE

FICTIONAL HYPOTHESES: FROM GENERAL METHOD TO POLAR CONCEPT

> It is not that we regard the connected series of gifts as inspired, nor as incapable of improvement, for it may be that as our psychological observations of children grow wiser, more sympathetic, and more subtle, we shall see cause to make radical changes in the objects which are Froebel's legacy to the kindergarten. This we may do, but we can never improve upon the motherly tenderness of spirit with which they were devised by the great pioneer of child-study, nor upon the philosophic insight which based them on universal instincts of childhood.[1]

This statement from a book used extensively in teacher training half a century ago expresses the belief that some final truths about teaching had been discovered. The changeless truths were not about the particular objects used in classroom instruction but, first, the general method of object instruction, second, Froebel's tender attitude toward youngsters and instruction, and finally, the philosophic insights into child nature and the metaphysics underlying them. As talk about education ascended the ladder of abstractions from practical activities to general method to personal attitude to insights into child nature and finally to the metaphysics of "reality," the degree of certainty increased.

As with Plato before them, Pestalozzi, and especially Froebel, directed considerable attention away from practice and toward the broadest of philosophic abstractions. In the discussions of education so influential during the nineteenth century, American educators often got no closer to actual practice than the general method. Where Pestalozzi and Froebel had worked out the particular classroom activities on which their methods were predicated, Americans tended to accept the practices wholesale and concern themselves with the psychological and philosophic rationales designed to give justification to the methods. From the philosophic justification of general method the tendency to discuss practice in terms of polar abstractions filled the literature with disputes between traditionalists and progressives. Practice, as such, was overlooked.

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[1] Wiggins and Smith, 1896: 11.1

A Word about General Methods: General method, in the discussion of American education, served to begin talk about instruction at a level of abstraction above the particulars of classroom conduct and then moved it further up the ladder of abstractions. By contrast, the general method of object teaching developed by Pestalozzi and Froebel represented a synthesis of actual practices even though justification for that synthesis reached into high levels of philosophic abstraction. Object method did have a foundation in specific classroom activities, materials, and behaviors set forth in observable detail. As such it was a generalization from practice. General methods such as the problem-solving method or Kilpatrick's project method did not have the same basis in concrete instructional practice. Problem solving and the project method were general conceptions of practice. They derived their meaning as deductions from psychological and philosophic conceptions and made only the most general recommendations for behavior in the classroom.

Clearly, generalizations from practice belong to a literal discipline of education. General conceptions of practice, in contrast, must be examined quite carefully to see whether they contain literal or literary implications for practice. Kilpatrick's project method has been one of the most influential general conceptions of practice in part because it accompanied the school revolution chronologically. It will be examined here for what it has to contribute to the distinction between literal and literary disciplines as well as for the insight it offers into the nature of ostensive activity in instruction.

Inquiry into the didactic side of instructional activity will be set against Kilpatrick's ostensive project method in such a way as to develop the parallel between education as a discipline and art criticism already introduced.

The New Methodology: The search for a general method of science has filled much of philosophy of science with models and step-by-step procedures. Similarly, much of the serious talk about education has been devoted to the development of a general method of instruction. Even more talk has flowed from the conviction that a general method of instruction had been found and that teachers needed only to understand and to use it.

In monitorial method Bell and Lancaster found ways of controlling pupils so that drill and memorization could be administered in large doses. Early American instruction took to heart their generalizations from practice and looked to monitorial method for the elimination of illiteracy. Pestalozzi and Froebel perfected techniques for having youngsters learn from the handling of objects, and a generation of American educators took these generalizations from practice as a method applicable to all instruction. The Herbartians, by contrast, deduced five steps of method from their psychological theory of apperception and suggested that all instruction could be reduced to preparation, presentation, condensation, generalization, and application.

While elementary instruction was growing up in America on generalizations drawn from practice, the secondary school was coming to maturity under the influence of the Herbartian general conception of practice. It was Dewey who proposed the five-step method of empirical science as the general conception of practice under which to unify all instruction. From that general model the specific general methods of problem solving and project method evolved. The new methodology was one more conception of practice kept afloat like a balloon by the psychological and philosophic rationales that inflated it. In free flight it sometimes cast a shadow on the ground of classroom practice, but it had no solid contact with it.

A strong suspicion that no single, simple method of science exists has taken hold in philosophy of science. A similar suspicion about general methods of instruction might be healthy.

The Project Method: The attendance revolution brought into the classroom variety of ability, of ethnic origins, of socio-economic background, and of levels of aspiration. With variety in all things the rule rather than the exception, heterogeneity, being inevitable, seemed desirable, even democratic. Like the city and the army, the school became a melting pot. But pitting youngsters of obviously different capabilities against one another or against a fixed standard of excellence seemed no fairer than the tortoise against the hare or both against the clock, Aesop not withstanding. Just as something had to be made available for everyone, so did each youngster have to have a chance, preferably an equal chance, of succeeding.

Problem solving, the activity movement, and the project method are all terms applied to the general method designed to provide some activity in which all could participate and from which most could benefit. Outstanding among those who championed facets of this new methodology were John Dewey, William H. Kilpatrick, and Walter S. Monroe. Chief among the critics were William C. Bagley and Ross Finney. At the height of interest in the new methodology, 1934, the National Society for the Study of Education brought out a yearbook exploring the activity movement concept. Seven years earlier H. B. Alberty had prepared a much more careful conceptual analysis of the ideas basic to the movement in a little noted monograph released by the Ohio State University. From these sources the general method involved can be assessed.

Kilpatrick: With the concept of the project method Kilpatrick thought he had made a major instructional breakthrough. He then quickly sought to link the general method with democracy through the idea of self-fashioned purposes. His own words illustrate well the kind of common sense social philosophy widespread in the professional journals, at meetings, and in teacher training courses just before, during, and immediately after World War One:

> We scorn the man who passively accepts what fate or some other chance brings to him. We admire the man who is master of his fate, when with deliberate regard for a total situation forms clear and far-reaching purposes, who plans and executes with nice care the purposes so formed. A man who habitually regulates his life with reference to worthy social aims meets at once the demands for practical efficiency and for moral responsibility. Such a one presents the ideal of democratic citizenship.[1]

Then to connect such talk about forming purposes and democratic citizenship with pedagogy he reasoned:

> As the purposeful act is then the typical unit of the worthy life in a democratic society, so also should it be made the typical unit of school procedure. We of America have for years increasingly desired that education be considered as life itself and not as a mere preparation for later living. . . . education based on the purposeful act prepares best for life while at the same time it constitutes the present worthy life itself.[2]

The democratic citizen, like the figure in the poem Invictus, is master of his fate and captain of his soul. He achieves this command by learning to plan and to execute his own purposes. The school provides him with systematic training in such planning and execution of "good" purposes. Certainly any school which can get maximum immediate and maximum long-range benefit from one and the same practice must be the best of all possible schools. It is in just this poetic-utopian way that Kilpatrick expected maximum benefit to flow from the adoption of what he called the project method as the basic model for all instruction. He wrote:

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1. Kilpatrick, 1918: 5.1

2. Kilpatrick, 1918: 5.2

> The contention of this paper is that wholehearted purposeful activity in a social situation as the typical unit of school procedure is the best guarantee of the utilization of the child's native capacities now too frequently wasted. Under proper guidance purpose means efficiency, not only in reaching the projected end of the activity immediately at hand, but even more in securing from the activity the learning which it potentially contains. Learning of all kinds and in all its desirable ramifications best proceeds in proportion as wholeheartedness of purpose is present. With the child naturally social and with the skillful teacher to stimulate and guide his purposing, we can especially expect that kind of learning we call character building.[1]

Having stated his basic attitude toward deportment and organization, he attempted to categorize the kinds of learning which would be encouraged under project method instruction:

> Let us consider the classification of the different types of projects: Type I, where the purpose is to embody some idea or plan in external form, as building a boat, writing a letter, presenting a play; Type 2, where the purpose is to enjoy some (esthetic) experience, as listening to a story, hearing a symphony, appreciating a picture; Type 3, where the purpose is to straighten out some intellectual difficulty, to solve some problem, as to find out whether or not dew falls, to ascertain how New York outgrew Philadelphia; Type 4, where the purpose is to obtain some item or degree of skill or knowledge, as learning to write grade 14 on the Thorndike Scale, learning the irregular verbs in French.[2]

Simplified, Kilpatrick's four types of projects can be listed as:

1. Construction (writing a letter probably belongs as an example of Type 4).

2. Appreciation

3. Puzzle solving

4. Skill and information mastery.

But for Kilpatrick the kind of learning mattered far less than

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1. Kilpatrick, 1918: 5.3

2. Kilpatrick, 1918: 5.4

the spirit permeating it. This becomes clear when the concept of spontaneous organization received serious consideration under the heading of cooperative planning. In emphasizing this stage of spontaneous organization, Walter S. Monroe voiced an attitude toward instruction which grew in popularity just before and during the depression.

__Monroe:__ Certainly, if "wholehearted purposeful activity in a social situation" were to become "the typical unit of school procedure" regardless of subject matter to be taught, then a general atmosphere of elbowroom rather than constraint would have to pervade all classes. But for a pupil to "plan and execute his own purposes," the spontaneous organization necessary to capitalize on interest and cultivate enthusiasm had to become equally pervasive. Eight years after Kilpatrick's initial statement, in the middle of the Roaring Twenties, Walter S. Monroe returned to this theme in the following attempt to distinguish the concept of project method from problem solving:

> A variety of definitions have been proposed for "project" as the term is now used but the one formulated by Kilpatrick (1921) appears to be most helpful. He defines a project to be "any unit of purposeful experience, any instance of purposeful activity where the dominating purpose, as an inner urge, (1) fixes the aim of the action, (2) guides its process, and (3) furnishes its drive, its inner motivation."[1]

The references to "inner urge," "inner motivation," indicate how seriously educators sought to establish spontaneity as the principal basis for the organization of instruction. How far this emphasis on spontaneous organization went in the thinking of responsible educators can be gleaned from what Monroe went on to say about the essential difference between problem solving and project methods. About the project method he said:

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[1] Monroe, 1926: 7.1

> No assignments are made. Instead the pupils are given an opportunity to do things they want to do. This does not mean that they are allowed to do as they please and are subject to no restraint nor direction. Spontaneous proposals by the pupils which do not appear to lead to highly educative activity may be discouraged or even vetoed by the teacher. On the other hand the teacher may stimulate purposing by the pupils and even suggest projects but direct assignments have no place in the project method.
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> The phrase "problem method" has been used to designate a type of instructional procedure which is sometimes confused with the project method. There is, however, a fundamental difference. Under the problem method the exercise is assigned; under the project method it is proposed by the pupils. The actual activities of the pupils and the outcomes, both mental and material, may appear to be the same but the teacher's point of view is different.[1]

The spontaneity that cooperative planning permits, not the nature of the work itself, distinguishes project method from problem solving. The difference is procedural, organizational. Describing how this reliance on organizational spontaneity changes the whole curriculum, Monroe wrote:

> . . . the project method and a fixed curriculum are incompatible. . . . the adoption of the project method as the typical instructional procedure will usually make it impossible to follow a prescribed curriculum.[2]

Stating it from the teacher's point of view, he said:

> The concept of the project method implies that the pupils are to realize their purposes with a minimum of assistance from

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1. Monroe, 1926: 7.2

2. Monroe, 1926: 7.3

> the teacher. . . . A teacher employing the project method will seldom if ever be able to plan in advance the particular projects that his class will undertake. Instead he must utilize the purposes exhibited by his pupils.[1]

Throughout their discussions Kilpatrick, Monroe, and other leaders of what later became known as the "activity movement" stressed elbowroom in deportment and spontaneity in organization. A full appreciation of the kind of learning implied by such an approach to deportment and elbowroom received widespread attention much later. One of the documents responsible for the extensive examination and explanation of this aspect of instruction was Part II of the Thirty-third Yearbook of the National Society for the Study of Education which gave full attention to the activity movement. But in 1927, the year after Monroe's statement and seven years before the Yearbook, H. B. Alberty at Ohio State University undertook a scholarly analysis of the project method.

Alberty: From the very beginning of his analysis, A Study of the Project Method in Education, 1927, Alberty admitted that the new methodology had a legitimate complaint against the excesses of drill, memorization, text-worship, and unintelligible abstraction so often associated with didactic instruction. Practice had too often crystallized into meaningless repetition and stultifying drudgery, he affirmed as follows:

> The pupils learn symbols; words, without having back of them meaningful experiences. They "learn" to recite definitions from the textbook glibly, without having the slightest notion

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[1] Monroe, 1926: 7.4

of the real meaning. The girl who took the prize for remembering that a "noun is the name of an animal, thing, or quality, as horse, hair, justice" and then wondered what "horse-hair justice" really was, is one case in point.[1]

In explaining how projects could provide meaningful experiences, advocates of the new methodology often spoke of "real life activity." Just as a thing itself has a kind of "reality" which a photograph lacks, so did the activity of building a house, or even a model of one, represent a real life experience only described in books which explained how to construct a house. Direct experience was seen as better than vicarious experience. Direct contact made symbol memorization unnecessary without impairing understanding. But terms like "real-life activity" were mixed with slogans like "learning by doing," and both were blended with problem solving and project method to yield much glib talk about instruction under the general heading of "the activity movement."

In an effort to disengage sense from nonsense in the kind of talk about instruction which Kilpatrick engaged in, and with which he gained so much acceptance among teachers, Alberty reviewed the development of the various concepts involved. He reported that the educational use of the term project began when R. W. Stimson, an agent of the Massachusetts Board of Education, "applied it to a plan of 'part time work' in the Vocational Agricultural High School of Massachusetts."[2] Describing such a project, he wrote:

If it is desired to teach the boys how to raise potatoes the

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[1] 1. Alberty, 1927: 1.1

[2] 2. Alberty, 1927: 1.2

> plan is to have him actually select a plot of ground, prepare the soil, select and plant the seed, and eventually harvest his crop under actual farming conditions. This provides for what later became known as the concept of "real-life activity," "natural setting" or "social situation."[1]

Initially, then, "project" referred to work done away from school and only partially under the direction of school authorities. Taking it a step further, Alberty reports that Stimson looked favorably upon the fact that in 1912 twenty-five boys earned $5102.30 from their projects and that Dennis asserted that "an agricultural project to be of value, must be of economic importance."[2] Not only did youngsters learn from doing, but they did well in the bargain. In this interpretation of project -- that it must have economic importance -- this real life activity came as close to being a business enterprise as a school sponsored program could become. Initially it had specific practical meaning.

Tracing the extrapolation of the concept of project method from its original meaning as a work activity, Alberty credits *G. M. Ruch* with equating project method with problem solving along lines suggested by Dewey's ideas about reflective thinking. Alberty supported this merger of ideas in the following manner:

> The problem method becomes completely merged with the project method. One may say that the stages above indicated (1. a situation calling for adjustment. 2. defining a purpose to adjust it. 3. casting about for solutions. . . . 4. carrying out plans . . . 5. judging success or failure. 6. feeling satisfied or dissatisfied.) are practically synonymous with Dewey's analysis of the complete act of thought, and any activity

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[1] Alberty, 1927: 1.3

[2] Alberty, 1927: 1.4

which might properly be called thinking becomes a project.[1]

Ruch and Kilpatrick fought against more limited interpretations of project method advocated by such leaders as Snedden, Randall, and Moore. Ruch wanted to broaden the concept so that, to use his words, "the project can be fully utilized in all fields of classroom instruction."[2]

In order to make the concept over so that it would fit any kind of instructional situation, Kilpatrick dissociated "project" from any particular kind of activity or learning outcome. Thus terms like "real-life activity" and "natural or social setting" lost their literal meaning as references to a certain kind of activity. How such phrases took on a wholly figurative meaning Alberty explains in this way:

> In the beginning of the use of the project method the basis for the determination, however, was an objective one. One had only to analyze the "project" itself to determine whether or not, independent of any consideration of the learner, it was a "real-life activity." With the new extension proposed by Kilpatrick, it avails us nothing to examine the project, because that method of procedure could never reveal whether the activity was "wholeheartedly purposeful."[3]

Criticizing such an alteration of meaning he stated:

> Now, upon the arrival of the new definition of the project [Kilpatrick's], the confusion grows because the criterion of what constitutes a project becomes entirely subjective.[4]

And finally, condemning such talk, he concluded:

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1. Alberty, 1927: 1.5

2. Alberty, 1927: 1.6

3. Alberty, 1927: 1.7

4. Alberty, 1927: 1.8

> We can raise no objection to Kilpatrick gathering together all the valuable principles of the "new education" under the concept of "wholehearted, purposeful activity proceeding in a social environment," but we can legitimately inquire why he should have called the concept by the name of project method. Why call it by any new name? Why not call it just what it is -- wholehearted purposeful activity? This would have served to unite such activities as uttering a prayer, making a dress, and watching a Fourth of July celebration, under one head -- though it is hard to see why anyone should want to unite such various activities.[1]

Originally projects had been concrete and particular kinds of activity carried on in natural, not school, settings. Growing potatoes on the farm was one kind of project. As the activity movement developed, men like Kilpatrick capitalized on the sense which such projects made by stressing such phrases as "we learn by doing." If idle hands be the devil's playground, busy hands become the teacher's workshop. But in emphasizing the half-truth that children do, indeed, learn many things best by doing them rather than by reading about them, educators ignored its equally valid corollary, namely, that people often understand least what they do most familiarly. Men love but fail to understand their emotions; they argue but remain illogical; and some people, we are told, have children yet know nothing about procreation. What had begun as a generalization from practice had become a general conception.

The work of Comenius, Pestalozzi, and Froebel impressed on American educators the realization that sensory experience often provides an excellent platform from which to launch concepts. Playing with blocks starts youngsters toward an understanding of volume which words could not duplicate. Here was the three dimensional application of the phrase "one picture is worth a thousand words." In their enthusiasm, advocates of the new methodology often mistook the beginning point for the destination. Later, in vocational training programs, educators often ignored the fact that a youngster could become proficient in rebuilding an automobile engine without ever encountering the concept of combusion. In such an oversight they were as much in error as the teachers of the nineteenth century who, emphasizing poetry, kept the concepts of love, honor, and beauty so abstract that youngsters never realized how they might apply to their home, business, or dress.

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[1] Alberty, 1927: 1.9

Figuratively, the need for "something which everyone could do well" regardless of his ability led practice toward block building and away from examining the concepts behind contruction. Everyone could handle concrete objects and benefit from the sensory experience in a way that most could not "grasp," or benefit from, high-level abstractions. Regardless of ability, all youngsters could be started at the same primitive level of sensory experience by getting them to work on simple projects which they could build. Able youngsters would soon move on to more abstract understandings. The less able could still be kept interested and occupied with manipulative activities, and they would continue to profit. Whereas, if the less able were forced to work with abstractions they could not understand, nothing would be gained and much lost. Youngsters would fail in their lessons and eventually drop out. They would lose interest, become restless, and raise problems of control.

To the advocates of the new methodology projects which offered the opportunity for physical activity, social contact, and the exercise of manipulative skill were necessary. It did not seem unreasonable to begin all instruction with some such activity or to recognize that many youngsters might not progress beyond such activity. It is from just such a starkly practical analysis as this that Alberty concluded that projects diverted attention away from the learning it was expected to accomplish in the same way that the candy coating on a pill makes the child forget that it is medicine. In the following analysis of the project method as oblique or indirect teaching he proposed this practical, rather than "theoretical" definition:

> Oblique Teaching: It should be noted that the project which the teacher set up (in the original sense of project method as found in Agricultural Education and Home Economics) really aimed at the same thing (acquisition of knowledge, skill, etc.) which he tried though sometimes unsuccessfully to accomplish by "book learning," but he proceeded in a very different manner. He set up a procedure which called for an activity which, from the pupils point of view, did not aim at learning at all; it aimed at the accomplishment of some other result which was of value to him. For example, his aim would be to raise a prize calf, not to learn to raise one. This leads to the definition which we wish to propose.
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> The project method in education is that teaching procedure which aims at securing learning (i.e. the acquisition of knowledge, habits, skills, ideals, etc.) indirectly by means of activities which have the following characteristics: 1. the goal which is supposed to dominate the pupil and lure him on to the accomplishment of the end, is not the learning sought by the teacher, but is some concrete result or accomplishment. 2. The learning essential to the satisfactory completion of the activity is always instrumental to this goal. That is, what ever learning is achieved is a by-product of the activity and is not directly arrived at by the pupil.[1]

By disengaging the concept of project from talk about "real-life activities," "natural setting," "inner-motivation," "typical unit of the worthy life," and "democracy" Alberty attempted to restore its practical meaning. He saw that the project led to a direct kind of sensory experience which often had incalculable merit as a beginning point from which to capture student interest and build certain skills. But he also saw that in terms of more abstract understandings, such as a geometric concept or the causes of the Civil War, projects such as building a model of Fort Sumter, no matter how much fun in themselves, represented an indirect approach to something beyond the project.

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[1] Alberty, 1927: 1.10

Captivated by the fact that projects provided activities that everyone could do reasonably well, find satisfaction in, and learn "something" from, advocates of the new methodology often convinced themselves that everything could be taught that way. From that conclusion it was only a short step to the belief that everything could be taught best that way. Such a conviction led naturally to slogans which implied that only the active child learned. Hence no projects, no teaching. What they overlooked was that a pupil could handle blocks indefinitely and not encounter the concept of volume. Discovery is not inevitable, often it isn't efficient, sometimes it isn't likely, and in some instances it might not be possible.

Projects and Practice: Alberty pointed out clearly that as general methods of instruction the project method and the problem solving method differed only insignificantly. Both methods, and the activity movement as a whole, emphasized ostensive activity in the classroom and minimized concern for didactic instruction. Further, Alberty explained that the early development of the project as an activity associated with vocational agriculture took place as a specific instructional technique. In its earliest form the project had promise of developing as a generalization from actual practice. Instead, however, of being a grass roots generalization synthesized from the common elements found in actual practice the project method concept fashioned by Kilpatrick was merely the subjective counterpart of the steps of scientific method described by Dewey: adjustment, purpose, imagination, execution, assessment of worth, and satisfaction. From such a subjective general conception of instruction, Kilpatrick directed most of his attention to the "self-other process" in psychology and the implications for democracy.

Monroe came closer to making specific recommendations for practice when he stated that the project method implied cooperative planning and that reliance on pre-planned sequence had to be abandoned. It was precisely such specific conclusions for actual practice which got the project method into some of its greatest difficulties. Indeed, specific directives for instruction could be pronounced. Their workability was another matter.

As long as the general conception of practice offered by Kilpatrick got no closer to classroom behavior than the generalization that "the purposeful act" should be the typical unit of school procedure in a democratic society, discussion remained safely abstract and ambiguous. What began sensibly enough as a recognition of the importance of elbowroom and spontaneity in the classroom soon grew pretentious. Instead of filling in the details of instructional space, discussion roamed the outer space of literary abstractions.

Talk about education climbed the ladder of abstraction from typical units of instruction and the purposeful act to psychological doctrines of permissiveness, self-other, phenomenalism, and gestalt. From psychology the route led to philosophy of human nature, moral character, social welfare, freedom, democracy, and the metaphysics of experience. Like finding the fundamental unit of matter, belief in the typical unit of instruction made it unnecessary to look at instruction further. Kilpatrick was convinced that his general conception was in fact a literal account of practice. Alberty showed clearly that at best the project method as proclaimed by Kilpatrick had only literary meaning since it never came close enough to practice to derive its meaning from specific classroom behavior.

The project method did not, however, develop in a vacuum. In part, it grew out of a reaction against the popularity of didactic activity given standing as a general method by the Herbartian five-step method. But even when the Herbartians got hold of it, there had been a long history of its use.

The Old Methodology: The idea of didactic instruction has been given quite clearly by Gilbert Ryle in his book Concept of Mind. He wrote:

> Didactic speaking and writing . . . is talk in which, unlike most of the other, what we tell is intended to be kept in mind. . . . Now didactic discourse, like other sorts of lessons, but unlike most other sorts of talk, is intended to be remembered, imitated and rehearsed by the recipient. It can be repeated without losing its point, and it is suitable for retransmission by word of mouth or in writing. Lessons so taught can be preserved, as lessons taught by demonstrations and examples cannot be preserved; they can therefore be accumulated, assembled, compared, sifted, and criticized. . . . Intellectual progress is possible just because the immature

can be taught what only the mature could have found out.[1] The difference between didactic and ostensive activity is clearly set forth by Ryle. The didactic nature of monitorial instruction and the Herbartian program stand revealed in his statement, and the fitness of such activity for recording on tape or for performance on television indicate its relevance to contemporary developments in instruction. But the general method which gave didactic activity the standing it enjoyed when the project method was proposed by Kilpatrick emerged from Herbartianism. Taking the theory of apperception as a literal account of human thought processes, Herbart patterned the five-step method of instruction directly after the steps of apperception which he affirmed. Even when the theory of apperception was discredited by scholars like William James, the five-step method of didactic instruction remained in favor as a general method; and when the Herbartian formulation gave way to the five steps of scientific method, the belief that some general method of didactic instruction could be found remained strong. The lecture method itself often acted as the illustration.

Especially as the youngster went further on in school, the lecture became ever increasingly the dominant method of instruction. Academic subjects of the kind encountered in liberal arts colleges lent themselves well to the lecture method. Also the amount of reading that had to be done increased in the higher grades. The lecture and the textbook in academic subjects provided the general

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1. Ryle, 1949: 9.1

framework for the emphasis on didactic activity. In talk about education the Herbartians were the last to develop a general method to synthesize these activities into a conception of practice.

Behind the whole idea of a liberal arts education there is a confidence in didactic instruction that has been expressed by such committees as the Harvard Faculty of Arts and Science in General Education in a Free Society (1945). Concepts such as "liberal arts," "general education," and "the humanities" usually embrace didactic instruction as their general method; but aside from the Herbartians no group has given formal expression to it as a conception of practice. Yet the concepts underlying the expected effectiveness of didactic activity have been inquired into. Among those who have been interested in art and in art criticism, the communication between the work and the appreciator has often seemed the purest kind of didactic activity. Similar in kind to the learning to be kept in mind from any lecture or book, the quality of didactic learning achieved through contact with the arts somehow seemed quite superior.

Generations of Americans and generations of educated men before them believed that the reflections on one's own experience could not be nearly as significant as the reflections great men have produced. Deep baptism in great works brought depth of understanding which gave new meaning to the limited experiences of daily life. Exposure to these treasures, however, did not automatically lead to understanding. There had to be a "proper attitude" quite similar in nature to Kilpatrick's emphasis on "the purposeful act." Two art critics and contributors to the development of art criticism as an academic discipline who have explored this facet of didactic activity are I. A. Richards and Yvor Winters.

I. A. Richards -- The Tuning Fork Theory: In his book Principles of Literary Criticism (1929) Richards sought to defend art as man's most valuable and successful channel of communication at a time when science was being praised by such men as Dewey as the highest form of knowledge. Thus his theory of indirect, almost subliminal, communication between art work and appreciator opposed the concept of improving communication by constantly refining the descriptive statements so necessary in science. This assertion of the primacy of art gave considerable support to advocates of didactic learning in their attempt to preserve humanistic studies as an important part of the curriculum. Early in his book, Richards stated the following assumption so common to the didactic conception of learning:

> We pass as a rule from a chaotic to a better organized state by ways which we know nothing about. Typically through the influence of other minds. Literature and the arts are the chief means by which these influences are diffused. It should be unnecessary to insist upon the degree to which high civilization, in other words, free, varied, and unwasteful life, depend upon them in a numerous society.[1]

But the "influence of other minds" responsible for this improvement must not be mistaken as an ordinary kind of communication such as might be used in conversation, argument, or scientific discourse. Here was a kind of communication which resembled the operation of a tuning fork in its capacity to transmit feeling from the artist to the work and on to the appreciator. Richards assumed an indirect kind of communication in these words:

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[1] Richards, 1929: 8.1

> All supremely successful communication involves this correspondence (between the poet's impulses and possible impulses in his reader), and no planning can take its place. Nor is the deliberate conscious attempt directed to communication so successful as the unconscious indirect method.[1]

Thus the vaunted objectivity of science, the careful planning of the scholar, the logic of the philosopher, the consistency of theory builders all fall short of this subtle and most effective secret communion. As in a religious communion, the poet and the reader exchange subtle bonds of sympathy. The vibrations which pass from poet to appreciator have their counterpart in the deep sensitivity lovers are supposed to share. Or to return to the original metaphor, the artist sets the work of art vibrating like a tuning fork; and the work in turn stimulates vibrations deep inside each mind tuned to that frequency: from mind to work to mind. How this operates Richards attempted to explain in the following passage:

> Colours, in fact, have harmonic relations, although the physical laws governing these relations are at present unknown, and the relationships themselves only imperfectly ascertained. For every colour another can be found such that the combined responses to the two will be of a recognizable kind. . . . A sensitive colourist feels these compatibilities as giving to these combinations of colours a definite character, which no other combination possesses. . . . The fact that roses, sunsets, and so forth are found to present harmonious combinations of colour may appear a little puzzling by this account. . . . Out of all these (gradients of colour present) the eye picks that gradation which best accords with the other colours chosen. . . . The great range of different possible selections is, however, of importance. It explains the fact that

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1. Richards, 1929: 8.2

> we see such different colours for instance when gloomy and when gay, and that is how an actual selection made by an artist may reveal the kind and direction of the impulses which are active in him at the moment of selection.[1]

Developed to explain communication between artist, work, and appreciator speculation about the psychology of the aesthetic experience is intended as a general theory of communication. Early in the book Richards stated that aesthetic experiences "are only a further development, a finer organization of ordinary experiences, and not in the least a new and different kind of thing."[2] This finer organization develops initially in the unique synthesis that constitutes the artist's special talent. Richards sought to explain the process as follows:

> The answer then . . . to the problem of how the poet's experience is more than usually available to him is that it is, as he undergoes it, more than usually organized through his more than usual vigilance. Connections become established for him which in the ordinary mind, much more rigid and exclusive in its play of impulses, are never effected. . . . In order to keep any steadyness and clarity in his attitudes the ordinary man . . . [must suppress] the greater part of the impulses which the situation might arouse. He is incapable of organizing them; therefore, they have to be left out. In the same situation the artist is able to admit far more without confusion.[3]

Admitting more impulses than the ordinary man, organizing them better through a special vigilance, the artist deposits so much more in the work of art than ordinary works contain that he makes it a veritable treasure. And the wealth that can be extracted from such a treasure can be obtained nowhere else. Hence, advocates of didactic learning argued that a program which reduced the emphasis on poetry, the arts, humanities, or liberal arts in general did irreparable harm to the student. Speaking of that harm and the rarity of the kind of experience the arts make available, Richards wrote:

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[1] Richards, 1929: 8.3

[2] Richards, 1929: 8.4

[3] Richards, 1929: 8.5

> There need be . . . . no discernable connection or resemblance whatever between the experience due to the work of art and the later behavior and experience which is modified through it. . . . No one who has repeatedly lived through experiences at the level of discrimination and co-ordination presupposed by the greater writers, can even, when fully "vigilant," be contented with ordinary crudities, though a touch of liver may of course suspend these superior responses. . . .
>
> The experiences which the arts offer are not obtainable, or but rarely, elsewhere. Would that they were! They are not incomplete; they might better be described as ordinary experiences completed. They are not such that the most adequately equipped person can dispense with them and suffer no loss, and this loss is not momentary, but recurrent and permanent; the best equipped are precisely the people who most value these experiences.[1]

Here, then, Richards gives the final assertion of supreme confidence:

1. The discipline of creating art and comprehending it makes men better.
2. The experiences that make men better can be best found in the arts (or the liberal arts).
3. Deficiency in such experience means a permanent loss which will afflict later life.
4. Exposure to such experience is the best overall preparation for anything that may follow in life.

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[1] Richards, 1929: 8.6

Yvor Winters -- The Breakthrough Theory: To Richards the work of art acted as a catalyst which organized subconscious states of mind and thus served as a general benefactor. Advocates of didactic learning could expand this concept to include all liberal arts subjects and ideas. Like a true catalyst, didactic instruction and art brought about improvement without, itself, being altered.

This idea of a generalized benefit occurring at the subconscious level and available from no other source prompted advocates of didactic learning to insist that certain works and materials had to be approached in certain ways if the proper catalytic action were to be achieved. Just as the artist had to address himself to his task with dedication, discipline, skill, and standards of excellence, so critics who would evaluate, scholars who would understand, students who would appreciate, and any reader who would benefit must exhibit a similar commitment.

Didactic instruction in general, and art in particular, communicated more than the feelings of the artist. The refinement of ordinary experience which the artist achieved and transferred to his work, in Richards' conception of art as harmonic communication, developed in the writings of Yvor Winters into a theory of art as an instrument for communicating objective truth. His book In Defense of Reason, published in 1937, stated this thesis, a thesis widely believed by advocates of didacticism as a theory of art, of literature, and of instruction:

> The theory of literature which I defined in these essays is absolutist. I believe that the work of literature, insofar as it is valuable, approximates a real apprehension and communication of a particular kind of objective truth. The form of literature with which I am for the most part concerned is

> the poem; but since the poem exhausts more fully than any other literary form the inherent possibilities of language, what I say about poetry can be extended to include other literary forms with relatively unimportant qualifications. . . .
>
> We may say that a poem . . . should offer us new perceptions, not only of the exterior universe, but of human experience as well; it should add . . . to what we have already seen. This is the elementary function for the reader. The corresponding function for the poet is a sharpening and training of his sensibilities; the very exigencies of the medium as he employs it in the act of perception should force him to the discovery of values which he never would have found without the covering of all the conditions of that particular act; conditions one or more of which will be the necessity of solving some particular difficulty such as the location of a rhyme or the perfection of a cadence without disturbance to the remainder of the poem. . . .
>
> The poet, in striving toward an ideal of poetic form at which he has arrived through the study of other poets, is actually striving to perfect a moral attitude toward that range of experience of which he is aware.[1]

The argument which Winters unfolded provides a scaffolding for erecting a defense of didactic learning. If the concepts pertain first to poetry but can include all literature, it remains only to expand them once more to include all the arts and still further to embrace the liberal arts. The moral attitude of the poet toward his work is only the pure prototype of the moral attitude each student should have toward his scholarship. Only with such an attitude can the genuine purposes of poetry, in particular, or learning, in general, be reached: the discovery of new values and new objective truths. Thus this moral attitude on the part of the poet does not differ from the moral attitude of the scientist. Like science, poetry uncovers new moral truths, it breaks through to the frontiers of new

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1. Winters, 1937: 12.1

knowledge and new values. Ultimately, then, poetry and didactic learning achieve the same results as advocates of ostensive learning hoped projects and activities would facilitate. The student who develops the proper moral attitudes toward his liberal arts studies becomes to some degree a better person in the same mysterious manner that the poet who achieves excellence in his work becomes a better person.

Lest he be considered naive concerning the betterment of poets through their work, Winters made the following explanation:

> . . . I suffer from no illusion that any man who can write a good poem has a naturally sweet moral temper or that the man who has written three good poems is a candidate for canonization. Literary history is packed with sickening biographies. But it is worth noting that the poetry of such a man, say, as Rochester . . . displays a mastery of an extremely narrow range of experience, and that his moral brutality falls almost wholly in those regions . . . with which his poetry fails to deal or with which it deals badly.[1]

Though the area which any individual might master may be small, once he has broken through the barrier of moral insensitivity he has new insights which change his life. Insight into moral truth keeps a man from resuming earlier faulty ways in the same fashion that perception of a truth about the physical world makes it impossible for the individual to go on believing its contrary. There are many lessons to be learned, many areas in which to build moral attitudes, many insights to be pursued in poetry and literature. There is an institution, Winters stated, in which such didactic learning can be pursued:

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1. Winters, 1937: 12.2

> But the student of literature who takes his profession seriously, who wishes to quicken it and make it important, has an institution nevertheless. That institution, in spite of what I have been saying, is the university. . . . Most of the great minds in science, philosophy, and history will be found in the universities -- these are not men who have taken flight from the modern world, but sometimes for better and sometimes for worse, they are the men who are making it. The university is the intellectual and spiritual center of our world.[1]

Competing Rationales: In sum, liberal arts subjects, like art itself, have the same potential for fashioning moral character that poetry exhibits. The necessary ingredient is the development of the proper moral attitude with which to approach the understanding, appreciation, or creation of the "work" whether it be history, a painting, or science. This moral attitude, and the necessary background for understanding and appreciation, constitutes the required discipline which any competent performer must acquire whether he seeks to understand as a student, discover as a scientist, or create as an artist. The discipline and the moral attitude are best achieved by studying liberal arts subjects, if not poetry, in a university setting. And didactic activity is the mode of instruction most suited to such subjects either in the form of background lecture, careful exegesis, or the indispensible assigned reading. The skills and background knowledge that comprise the required discipline plus the moral attitude enable the academic subject matter to act as a catalyst in the production of moral character. For Richards this same process brings about a unique order and harmony unavailable elsewhere, making poetry, in the narrow, and allied subjects, in the broad, a unique, subconscious mode of communication without peer. This was the spirit of didactic instruction which had settled deep in university and college programs over the centuries since Sir Phillip Sidney first set the argument down in English. Under the Herbartians that spirit trooped into American secondary instruction and began to filter down into the grades.

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[1] Winters, 1937: 12.3

The university student who pursues a liberal arts education develops a moral attitude toward that range of experience which advocates of didactic learning consider most important and least accessible by any other route. And the most important part of public secondary school instruction is that didactic learning which provides the background on which a university student can build. The secondary schools are certainly a place where the same moral attitude toward aspects of human knowledge and experience can be developed, and some work along these lines can be accomplished in the elementary school. New insights into moral truth like new factual knowledge can never be achieved too soon.

Distilled to an essence, didactic instruction served three functions: (1) it provided a broad apprenticeship in appreciation, (2) it provided a select journeyman's opportunity to develop standards of evaluation for both critics and scholars, and (3) it served as necessary background for those who would become master artists. The artist, the critic, and the student all drew sustenance and learned subtle lines of communication in the process of grasping how to achieve a "moral attitude" toward a body of knowledge, a class of ideas, or a particular work. They learned objective truths about love, duty, courage, beauty -- aspects of human experience either too broad, or too involved with moral choices, for science to illuminate. And most important of all, they learned to "feel" their way to choices on the basis of subconscious, but always operating, implicit standards. In short, didactic instruction was to develop "taste." And for all the ratiocination about how these standards of taste were to be cultivated, in the final analysis they turn out to be intuited. Winters made this point at its clearest when he stated the function of the poet as sharpening and training his sensibilities so as to be prepared to discover "values which he never would have found without the convening of all the conditions of that particular act, conditions one or more of which will be the necessity of solving some particular difficulty such as the location of a rhyme or the perfection of a cadence without disturbance to the remainder of the poem."

Poets and critics "sense" a disturbance in rhyme or cadence much as an infantryman senses danger. A battle veteran who has witnessed the caprice with which well-trained men die begins to suspect that he has superior reflexes which some intuited sensitivity triggers. The poet, the critic, and the appreciator do not have to make reflex actions, but each depends on an intuited sense of taste in judging works good or bad. Broadened beyond art, similar intuited standards are seen as guides in making moral choices. Thus the whole program in liberal arts, general education, or humanities courses has the dual function of providing the background for subtle communication on matters of choice as well as constructing implicit standards of taste which operate narrowly in art but broadly throughout social intercourse. In short, didactic learning implies that exposure to certain content in a disciplined and dedicated manner will cultivate implicit taste in art and in morals.

In spirit, didacticism is based on an intuited concept of good. But such intuition is to be the product of careful deliberation stimulated by the didactic content -- poetry, history, philosophy, etc. Didactic learning employs the liberal arts subjects as the beginning point for the deliberation from which moral intuition will spring. Just what the seed is and how it will grow depends very much on each individual. But the selection of materials, like the selection of fertilizer, can be designed to nourish one kind of seed and kill another. Ultimately, then, certain didactic instruction supports one set of intuitions and discourages others. Advocates of didactic learning might agree that moral intuition can best be built through the deliberation that history, literature, and philosophy inspire. They may disagree about precisely which works should be read as well as about which intuitions should be approved. When a poet's intuition about rhyme and cadence differs sufficiently from that of the critics, the latter judge the poem bad and the intuitions wrong.

In connection with public school instruction, the issue of which intuitions to strive for seldom arose. Teachers took it for granted that certain course content would lead to fruitful deliberation and that from this some generally acceptable set of intuitions would emerge. Bereft of its spirit, didactic instruction became mere exposure to one literary work or another, one set of lectures or another, one textbook or another. Instead of careful deliberation designed to build a certain particular intuition, discussion often rambled pointlessly. The lecture ceased to be an integral part of the construction of a point of view leading toward a certain disposition toward moral problems and became merely a bit of impersonally presented information. Some lectures became mere broadcasts with little or no attention to how they were received, and at the negative extreme some lectures were so dogmatic they inhibited deliberation.

Though conceived with high expectations, didactic instruction, as practiced, too often descended to the mere expectation that students would blot up rather pointless bodies of information and somehow benefit from that. Hence in its practical context didactic learning meant little more than exposure to certain books, lectures, and information in the same way that ostensive learning often amounted to little more than engagement in some relatively pleasant project construction activity. Each argued for the sense of its rationale but ignored the faults of its practice. At the same time, the faults of the other fellow's practice were used against him and the sense of his rationale ignored. Practice was examined only for proof of failure; it was too dangerous to predict that certain observable results would occur if certain specific instructional activities were tried for a specified length of time under stipulated conditions.

Only abstractions quite removed from practice offered suitable refuge. If the desired or approved moral character did not develop in the student of liberal arts or in the writer of poetry, Winters could always claim that the proper moral attitude for that range of experience had not been developed. He did precisely this when accounting for Rochester's bad performance.* If the lauded high level of discrimination (intuition or taste) of which Richards speaks does not seem apparent in the artist, he appeals first to "a touch of liver"** and finally to an escape clause that will resolve any discrepancy: "there need be no discernable connection or resemblance whatever between the experience due to the work of art and the later behavior which is modified through it."** Though not discernable there is a connection. Don't mistake them, Richards and Winters intend these as literal explanations of human behavior! In short, these are put forth as causal hypotheses.

Kilpatrick keeps the same escape hatch open in his defense of ostensive activity. If the attempted project does not succeed, the fault was not with the method but rather with the fact that the project did not represent a genuine purpose no matter how much it may have seemed to be genuine. If Monroe's spontaneous organization goes awry, the difficulty will not be with cooperative planning but rather with the fact that what seemed to be genuine cooperative participation was, after all, not seen as such by the child or children. Yet these were offered as literal explanations of behavior.

Literary Not Literal Hypotheses: When didactic instruction is defended in terms of a moral attitude and when subconscious communication is declared superior to conscious discourse, the failures of practice can be explained away indefinitely. The same is true when ostensive activity is defended in terms of the purposeful act being the typical unit of worthy life in a democratic society. Of these kinds of defenses Gilbert Ryle has correctly stated:

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*P. 77.

**P. 77.

> The imputed episodes seemed to be impenetrably "internal" because they were genuinely unwitnessable. But they were genuinely unwitnessable because they were mythical. They were causal hypotheses substituted for functional descriptions of the elements of published theories.[1]

Even though these accounts are given with great emphasis on biographical detail in order to seem literal, they remain fictional allegories. Instead of being credited as literal theories of human behavior holding portent for a literal discipline of education, the best that can be said of them is that they are literary hypotheses possessed with the same powers of suggestion found in good poetry.

The great bulk of talk in all fields of discussion is built upon literary hypotheses which have masqueraded as literal.

Not all the literary hypotheses behind educational discussion appear in the professional literature, as the theories offered by Winters and Richards indicate. Much of what is said about the merit of academic subjects, liberal arts training, the fine arts in the public schools, and didactic activity comes from unexamined concepts imported from such fields as art criticism and political science, to name only two. Nor is education the only area of inquiry in which the bulk of the hypotheses are literary. The parallel between art criticism and education as a discipline should establish this. Neither has a criteria of meaning that cleaves between sense and nonsense. Each is dominated by "giants" who make sense one day and fall from grace the next. Dewey was just such a giant. A discipline must have its founding fathers, but more important are the criteria of sense which serve like laws in society.

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[1] Ryle, 1949: 9.2

The Switch: If a literary hypothesis can be passed off as a literal one, the intellectual shell game of building what seems to be a discipline of education, or of anything else, has the only slight-of-mind it needs. The difficulty, as with merchandise from an amusement park, is not in winning the game but with trying to use the prize. If the literary hypothesis gains acceptance as a literal one, those who attempt to conduct practice on the basis of it may find themselves in a position similar to that faced by the man who believed the pen mightier than the sword and sought to slay lions with it. It can turn an already troublesome situation into a catastrophe.

Like most good shell games, there are several places at which the necessary switch can take place. Identification of those points of change-over requires that the different stages of literary and literal talk about education be identified. They are:

Literal Talk

1. Elements of actual practice -- behavioral descriptions of deportment, the organization of content, and the activities appropriate to learning.

2. Dimensions of practice -- the concepts giving depth to the elements (elbowroom, constraint, sequence, spontaneity, ostension, didacticism).

3. Generalizations from practice -- object teaching in such specific form as Froebel's gifts or Pestalozzi's handling procedures, the project method Alberty described as developing from agricultural training.

4. The concept of instructional space -- the tentative framework described in Chapter Two (combining elbowroom, etc. in a model).

Literary Talk

1. General methods (general conceptions of practice) -- Kilpatrick's idea of the project method. Dewey's scientific method of moral problem solving. The Herbartian five-step method. Monroe's cooperative planning.

2. Literary hypotheses -- Kilpatrick's concept of purpose as the typical unit of school procedure. Richard's tuning fork theory of communication. Winter's "moral attitude." The usual meaning of interest and need in educational circles.

3. Philosophic generalizations -- Kilpatrick's common sense link between elbowroom, freedom, and democracy. The majority of professional talk about Realism, Scholasticism, Idealism, and Pragmatism, especially when metaphysical.

Given as if they had literal significance, each level of literary talk labors under the obligation to give direction to actual practice. Philosophic generalizations begin with the analogy of the world likened to matter or to spirit and work their way down through social philosophy to show how democracy requires elbowroom in the classroom. The literary hypotheses, usually psychological in nature, deal directly in the subjective effects of elbowroom vs constraint. And the general methods can pretend to be generalizations taken from practice so that the shift in meaning from elbowroom as a literal concept to a literary one is unnoticed.

Even so, the difficulty is not with the presence of analogy or the development of literary hypotheses. The difficulty is with the substitution of literary for literal talk. One need not be disenchanted with poetry to disapprove of it being substituted for scientific talk by a physician who is supposed to give you a report on the condition of your heart. It is just such a substitution that has kept talk about education from developing into the literary discipline it can be by sustaining the illusion that it was achieving literal understandings not yet available to anyone. The causal hypotheses educators have dealt in under the headings "critical thinking," and "decision making processes," have been all too convincing fictions about the operation of inner mental processes no one has witnessed and which, all too likely, are unwitnessable because mythical, to reiterate Ryle clumsily.

The Path to Polar Conceptions of Practice: The use of literary hypotheses as if they had literal meaning enables those who talk about education to run smoothly from a discussion of elbowroom in the classroom to the general methods of project work, problem solving, and cooperative planning. Somewhere in transit elbowroom gets equated with freedom via such literary hypotheses as Kilpatrick's notion of the purposeful act. From the formation of purposes to the freedom of choice necessary in a democracy seems a smooth transition. And soon the discussion has crystallized around terms like democracy vs totalitarianism and traditionalist vs progressive.

At their best the literary hypotheses have the suggestive power of good poems. In some respects they can be judged the way a poem is judged. But in addition to such things as imagery, verisimilitude, and consistency the literary hypothesis must meet the criteria of utility. In the past this has been achieved by insisting that the literary hypothesis contained certain logical or necessary implications for practice. It was thought to be literal. If it be granted only literary meaning, then the expectation must be relaxed to account for its suggestive nature. At best, literary hypotheses can suggest "reasons to suppose" that practice might best be conducted this way or that and that certain consequences will ensue.

When Kilpatrick, Harold Rugg, or Boyd Bode spoke about the need for a democratic classroom, they did not suggest that their point of view represented merely reasons to suppose that elbowroom, sequential organization, and ostensive activity were best. The urgency Dewey had injected into the discussion of educational matters grew even stronger in his followers. These men came closer to setting forth their literary hypotheses as "reasons to die for" than as reasons to suppose. Already cast in polar terms, the struggle between progressives and traditionalists became a struggle for survival -- hardly a climate for the development of an intellectual discipline.

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CHAPTER FOUR

FRAMEWORK FOR CLASSIFYING CONCEPTS:

THE CONCEPTUAL NETWORK

> . . . the mere concept of activity in general no longer has any definite educational value. It did have when it stood in marked contrast with quiescence and passive absorption. But we have now reached a point where the problem is to study in a discriminating way from a variety of points of view various modes of activity, and to observe their respective consequences when they are employed. Otherwise an activity program will be in danger of being a catchword used to justify all sorts of things of diverging value. . . . in the abstract this activity may be boisterous, rowdy, thoughtless, blindly emotional, passionate, mechanical, and perfunctory. . . . Activity may consist of a succession of more or less spasmodic, because brief and interrupted performances, or of a consecutively developing occupation evolving over a long period.[1]

Dewey urged that the consequences of involving pupils in the construction of projects and the solving of problems be observed, recorded, and evaluated so that the literal significance of these activities could be determined. He urged that educators look carefully at the conditions of practice and the consequences of instructing one way or another. He hoped the tendency to talk in literary polarities would be reversed and that the discussion of literal particulars would begin. Except for a few developments in educational sociology and psychology he hoped in vain.

In the Civil War of American public schooling the Dirty Rebel and the Damned Yankee have been Traditionalist and Progressive Educator. Under such battle slogans a variety of lesser dichotomies have developed after the fashion of the pejoratives taken from Lynd for the first page of the Introduction to this study. A more extensive listing of terms associated with the polar literary talk which has passed as part of a discipline of education would include the following:

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[1] Dewey, 1934: 3.

Traditional (Old)	Progressive (New)
drill dominated	problem centered
lecture oriented	project oriented
teacher regulated	group regulated
information centered	value centered
competition controlled	cooperation controlled
college directed	welfare directed
fear governed	appreciation governed

In at least two important respects such dichotomies give false impressions. First, the dichotomy itself suggests an exclusiveness which is in fact not present. Neither camp can claim the exclusive practice of, or complete insulation from, any of the attributes listed. Each characteristic has that relationship to its counterpart found in the Aristotelian expression "No form without content, no content without form." Similarly, method without content has no meaning. Second, the category "Traditional" or "Progressive" suggests a unity of value -- a denominator common to all members -- not evident. On this point Harold Weisberg of Brandeis University has set the score straight in his original paper for Scheffler's book of readings, *Philosophy and Education*. After a detailed analysis of the concepts of Tradition and the Traditionalist he concluded:

> To argue for a sense of tradition means, really, to argue for some specific values embedded within traditions, on specific grounds. There is no "tradition," only traditions. Traditions

> conflict with and contradict each other. There are traditions of some practice or another but no tradition uberhaupt. . . . If what I have been arguing is correct, the issue of "traditionalism" vs. "experimentalism" in education is to be construed in a radically different light. . . . The questions which should concern educators are specific ones and include a variety of traditions.[1]

Much as with the terms "human nature" and "culture," so with "tradition." Since everyone has it little can be said of it that helps in distinguishing between peoples and groups, on the one hand, or the process of teaching, on the other. The term human nature used in defense of Caucasians vs. Orientals quickly brings the charge of special and unjustified usage.

Indeed, one of the six specific traditions herein examined is Experimentalism. But Weisberg's caution that it cannot be fruitfully inspected as the categorical opposite of traditionalism deserves emphasis. Predicated on just such a false dichotomy, the disputes over Progressivism and Traditionalism incorporate contradiction and internal conflict within the fundamental concepts used to characterize practice. Small wonder one concept becomes the garbage heap for everything not claimed as a virtue by the other. Inclusive of contradictions from the start, the concept of traditionalism assumes the powers of a giant. Against such a malevolence it becomes necessary to build the very model of a saint. With myth creating myth, what began as a controversy of unmatched pairs grew into a contest between a Demon and a Santa Claus, with no one questioning their existence. The plurality of conceptions and practices

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1. Weisberg, 1958: 13.

gathered under one hollow tent eventually forced its opposition to incorporate comparable diversity. Instead of answering questions about education, such false dichotomies erect intellectual structures which must be condemned as unsound and demolished by such critical analysis as Weisberg performed.

Properly, for his purposes, Weisberg analyzed the general concept of tradition. In the search for the borders of clear meaning his continent is normal usage. He stated that meanings must be extracted from particular traditions, but he did not take up the task. Where he left off this project begins.

The justifiable distinctions with which to replace false dichotomies so current in talk about educational programs must be sought in such specific educational traditions as Monitorial Method, Herbartianism, and Experimentalism. Yet even false dichotomies could not survive if they lacked verisimilitude entirely. As prejudice operates through exaggeration which can be passed off as representative of the group under attack, so does false dichotomy usually have an element of truth underlying its distortions. The problem becomes how to isolate that element in as pure form as possible.

A Tool for Analyzing Practical Traditions: Isolating warranted distinctions from several educational traditions, like separating cream, demands a minimum of contamination. In this respect, a neutral framework for reporting the major elements of those traditions resembles a pasteurization vat. Ultimately the outcome depends on what is poured in, but at least the container can be clean to begin with, big enough to accommodate the input, yet small enough to be manageable.

Though earlier educators such as Quintilian or Comenius could give the bulk of their attention to methods and content of instruction, those who followed Froebel and Pestalozzi could not turn away from the psychology of the individual learner. In addition, American concern for schooling as a major public institution brought in another branch of consideration. Each major American educational tradition had to deal with all three elements of education: the individual, instruction, and the institution. The ways of talking about each can be conveniently grouped under three headings best designated by the following prefixes:

1. intra -- within, inside
2. inter -- among, between, together
3. super -- above, beyond, over, more than

Combining these three prefixes with the three elements mentioned above yields the following framework for description*:

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*Just as it is appropriate to talk about intra-mural athletics, inter-cultural communication, and super-natural powers, so would these distinctions lead to the recognition of different levels of discussion and different kinds of concepts.

CONCEPTUAL NETWORK			
	Individual	Instructional	Institutional
intra (within, inside)	The psychology of the learner and how he learns, behaves, feels, or thinks	The structure and activities within a particular course, subject, or program	Internal operation of the school
inter (among, between, together)	The sociology of the classroom and the school - how students mix, mingle, interact, and adjust	The connections between subjects such as English and social studies or the interrelations among activities throughout the school	The relation of the school to other institutions such as the Church or the Supreme Court
super (above, over, beyond, more than)	Developments in the person which include more than his mental ability or his relationships with others	Outcomes of instruction extending beyond the sum total of courses given - such as love of learning	How the school functions with regard to the society as a whole

In the course of the development of American education some categories in the chart have received more attention than others. Some traditions have had little or nothing to say in certain of the nine categories described above. However, this framework does offer a neutral, comprehensive, yet simple basis for describing and comparing the six major practical traditions in American education. First, the diagram will be put to work uncovering the analogies directly relevant to the major conception of practice. The analogies along with the diagrammed descriptions of the six traditions may possibly unlock the riddle of the key polar viewpoints in American education. Then, the polar outlooks and the analogies will be examined in connection with the language of practice.

Uses of the Framework: Eventually the diagram will be put to work condensing the descriptions of the six practical traditions into summary statements which represent their most important central tendencies. This rounding-off of ideas for the purpose of close juxtaposing short-cuts many involved arguments, worthy in their own right, and runs the risk of misdiagnosing the main conceptions of the movement. If successful, however, it offers a comprehensive overview of the key literary concepts operating throughout the development of American public school practice. From such a panoramic sweep the peaks and valleys should stand out clearly. In addition to brief descriptions of the traditions the most frequent and provocative metaphors or analogies associated with them will be inserted into the diagram. Together, the analogies and their allied central conceptions should provide a key to discovering the viewpoints operating in the major conceptions of school practice. These conceptions and their literary analogies will be used as a basis for re-examining the structure and the nature of practical talk in education for clues as to how to proceed in developing a literary discipline maximally useful for two different purposes: one, as the intellectual content of teacher training; and two, as the prelude to a literal discipline of education.

The Conceptual Network: This nine category network for analyzing the content of the six major historical traditions provides a framework for mapping the major conceptions of practice so that they can be compared one against the other and all against the dimensions of practice. At this stage of development the most that can be expected of such a literary discipline is that when set against the model of instructional space the direction of suggestion will be toward practice instead of toward polarization.

After the six major conceptions of practice -- Monitorial Method, Object Teaching, Herbartianism, Child Study, Experimentalism, and the Current Academic Emphasis -- have been classified according to the above conceptual network, the study will conclude with a re-examination of instructional space.

CHAPTER FIVE

CLASSIFYING SIX MAJOR HISTORICAL TRADITIONS

> Let us begin with continuity and conceive in the field of human psychology a scale on which are distributed all kinds and aspects of human behavior. At the low end mere body acts; at the upper end appears the highest functioning of self-conscious personality. A little above the bottom would come the behavior of the body cells. . . . Higher up would come such complicated bodily functions as digestion, breathing, and heartbeat. Higher perhaps would come such appetites as hunger, thirst, sex, and the like. . . . Between these and the highest would come many habitual acts and other functions which serve human needs but are not directed with very definite conscious thinking. Finally, at the top of the scale, come the highest instances of intelligent purposing, critical thinking, and moral conduct.[1]

In Selfhood and Civilization (1941) Kilpatrick sets out his causal hypotheses in the very terms which Ryle later labelled mythical causal hypotheses: intelligent purposing and critical thinking. In this instance Kilpatrick was writing some of the literature designed to support the conception of practice known as experimentalism. He had no idea that he was dealing in a literary rather than a literal concept. Only in retrospect do such doctrines show up as deficient in literal meaning. The Herbartians believed as fully in the literal significance of their theory of apperception and their concept of the cultural epoch as Darwinians do in the theory of evolution. Indeed, such is the way with beliefs. The religious doctrines of primitive groups amuse us as inventive analogies, but there is little amusement in Christian circles when the resurrection of Christ is likened to the return of Santa Claus and the Easter Bunny. Some ideas are clearly fictions, but others seem as clearly literal. The conceptual network for classifying the six major conceptions of practice evades the difficult problem of arbitrating between the various concepts initially by merely displaying them. On this basis classification can proceed.

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[1] Kilpatrick, 1941: 6.

Much with a philosophic flavor similar to the speculation embarked on by Kilpatrick in the quotation above has been piled around the original statements made by Froebel, Pestalozzi, Herbart, and Dewey. Men like Bode, Kilpatrick, and Childs have made extrapolation from the original their academic careers. Yet with regard to its meaning for actual classroom practice the bulk of what passes for educational philosophy, educational psychology, and educational sociology surrounds the six major conceptions of practice like surplus fat. The issue between Hutchins and the Experimentalists with its metaphysical dispute over the nature of man and reality seems less than sensible when latter-day Experimentalists do not doubt the value of classical literature and Perennialists incorporate extensive activity projects and vocational training into their schools. If we can attain agreement on how to teach and what to teach and yet disagree on why we do what we do, how important is the disagreement -- especially as concerns practice or a practical discipline?

In some respects the models or analogies used to characterize the pupil and the school itself seem more closely allied to the problem of what and how to teach than the philosophic arguments. They represent a concept the working teacher can carry with him in the way he cannot carry around a detailed logical proof. Columbus did not have to know the mathematical and astronomical proofs for the roundness of the earth to conceive it as similar to an orange. By way of cutting through much of the philosophic disputes about Traditionalism, and consequently bypassing some false dichotomies spun out of words alone, in dealing with analogies this section considers mainly those analogies which seem to flank practice fore and aft, that is, analogies about the individual and the institution. These will be displayed in the descriptive framework used to describe the six major practical traditions: the conceptual network.

1. Monitorial Method: Practical in the narrow sense, the techniques of instruction assembled under monitorial method expressed a need for economy and control in education. Exploring both a wilderness in the West and the jungle of overseas trade, the new nation had few dollars and scant attention to spare for that unappreciated natural resource, the ordinary youngster.

Using boys as instructors and as disciplinarians kept dollar costs low. Inexperienced boys could not, however, have the background in subject matter or in practical judgment attained by a partly trained adult. Instruction had to be packaged in convenient units: first, for mastery by the tutor; then, for presentation to the novice; further, for drill and memorization; and, finally, for examination and approval. Since boys could not exercise adult discretion about the quality of a performance, some standard that required little judgment had to be found.

Clearly, any boy could distinguish a faulty performance from a perfect one with a minimum of judgment. Perfection became the measure of adequacy, and those kinds of achievement which could be assayed for flaws in the most mechanical manner became the primary concern of instruction. Mechanical drill, memorization, and repetition all focussed on the achievement of a flawless performance. Learning was defined in terms of whatever training would result in the acceptable mastery. Instruction held first place with consideration for the individual far behind and with concern over the total function of the school as a social institution almost out of sight.

Since boys had no mature understanding of the management and control of younger boys, instruction had to take place within the context of obedience thus adding a military-like hierarchy or chain of command to the natural tyranny that emerges when one youngster is given authority over others. Monitorial method accepted obedience as a prerequisite for beginning instruction and conceived of the individual in terms of the force needed to control him. Since boys extracted obedience from their charges in whatever way they could, the concept of discipline became a matter of the results achieved rather than how they were obtained. The end, not the means, received primary consideration because the techniques had to be developed ad hoc.

Given the requirement of having boys act as teachers, the mechanization of instruction and militarization of control followed as the simplest and most practical principles for the organization of monitorial method. Mechanized instruction and military control at the command of unsupervised youngsters were tools to be used but not to be improved. Each generation of tutors inherited a post, a class, and a set of rules to operate by as best as he could. He had neither the opportunity nor the background to evaluate the rules before acting on them or to alter them afterward. The practical, descriptive, and a-theoretical nature of monitorial method was accented by the fact that the rules-of-thumb given to tutors were devised by adults and not subject to revision by those who used them. This completed the concept of the school as military type institutions in which orders were carried out but not questioned. Its main practical concepts can be arranged as follows:

CHIEF CONCEPTS OF MONITORIAL METHOD*

	Individual	Instructional	Institutional
intra	A child is naturally disruptive and thus must be controlled first to be trained later	Drill, memorization, and perfect recitation led to mechanical techniques of instruction	The school developed as a military type hierarchy in which obedience to authority and responsibility within the chain of command was paramount
inter	Group discipline maintained through obedience of each member allowed efficient organization for drill and memorization	With attention given to individual units of instruction to be mastered by each group, subjects remained discrete and separate	
super	The child was seen as a small beast**		

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*For more extensive development and sources see Part One, pp. 15-31.

**Lest the charecterization of the child as a nasty beast seem

Monitorial practices harmonized with the prevailing common sense notion of youngsters as small beasts to be trained for minimum liter-

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irrelevant to contemporary educational thought, this statement from Gilbert Highet's popular book The Art of Teaching must be considered:

"They (children) are quite unlike adults. They are so different that it would be easier to understand them if they looked like animals. You know how a baby, before it is born, passes through the main stages of evolution. It begins by looking like an amoeba, goes on to look like a fish, resembles a big-headed monkey for some time, and ends up at birth looking remarkably like a little red blind clutching grimacing ape. I have often thought that in its first fifteen years of life it passes through another series of animal existences. Boys of nine and ten, for instance, are very like dogs. Watch a pack of them hot on the scent, yapping, running and jumping, bouncing aimlessly around full of unexpendable energy, kicking one another or breaking down a door as carelessly as a dog nips at its neighbor's flanks or bursts through a hedge. When they are really enjoying the chase, all their teeth and eyes gleam and their breath and laughter go 'huh, hugh, huh' like a leash of fox-terriers. Girls in their middle teens are like horses, strong, nervous, given to sudden illnesses and inexplicable terrors, able to work remarkably hard if they are kept firmly in hand, but really happiest when they are thinking of nothing particular and prancing about with their manes flying. Both dogs and horses are amiable creatures and can be domesticated, but it is a mistake to treat them as though they were human. It is also a mistake to treat horses as though they were dogs, or dogs like horses.

"So, if you are interested in teaching, do not even expect the young to be like yourself and the people you know. Learn the peculiar patterns of their thought and emotions just as you would learn to understand horses or dogs -- or other animals (for there are all kinds of different animals implicit in children; the very small ones are often more like birds) -- and then you will find that many of the inexplicable things they do are easy to understand, many of the unpardonable things easy to forget.

"How can you learn this? Chiefly with experience. . . ."[1]

In this fine example of anti-theoretic intellectualism Highet did not have to add "psychology notwithstanding." He merely took it for granted that his "insight" was to be preferred to the prevailing notions in psychology and in education which he was reacting against.

[1] Highet, 1950: 4.

acy and to be housebroken through firm discipline. The common sense view of child-nature seems secondary to the practical demands which led to mechanization of instruction and militarization, but even the common sense view attended primarily to the outcomes of training and the control achieved by harsh discipline. This re-enforcement between the common sense view of child-nature and the practical demands of monitorial instruction resulted in a single minded emphasis on instruction and control at the beginning of the American experiment in public schooling that would be difficult to over-emphasize. Even when the harmony between the two was disturbed by a competing view of child nature imported with object teaching, the practical emphasis on drill and obedience remained strong.

2. Object Method: The crude psychology of childhood which divided attention between the results of instruction and the process of learning entered American pedagogy through object teaching. Yet that rational psychology arrived less as a theory of child behavior than as an elaboration of proven techniques of instruction. Pestalozzi's insights into the mind of Man and Froebel's Protestant social psychology were cemented to personal experience with ordinary youngsters in and around the classroom. As practitioners, their indisputable area of genius, Pestalozzi and Froebel selected the rules of how to teach best from that practical wisdom that had collected like sediment from Quintilian to Comenius and interpreted it in terms of the home they made for youngsters. First and foremost, they had turned their homes into schools in which they could give the child their full attention in all phases of living. School was a "real life" situation in a unique sense.

With rules in hand they undertook the task for which they had less systematic preparation -- speculation about human nature. Such speculative talk about the individual had to be welded to the rules of thumb for teaching in order to assure practice the guidance of theory.

Froebel reduced the objects handled in classroom instruction to a specific set of geometric blocks, but their role was instrumental in a learning process in which the final outcome was some kind of spiritual awareness. Contact with objects counted chiefly as the means by which the individual became aware of what all of life was about. How this fit into our overall conception of the American school curriculum can be seen by the following diagram (page 105), "Synoptical Table of the Gifts and Occupations Showing the Connection Between the Kindergarten and School (Mme A. de Portugall).[1]

As adopted in the United States, Pestalozzi's object method concentrated less on the particular objects to be handled for spiritual awareness and abstract understanding and more on the knowledge of what the world was like. It became, literally, ostensive instruction and not much more. Instruction in each area of subject matter benefited from the body activity and sensory feelings aroused in working with objects. Reasoning held that learning became more facile and efficient as instruction took account of the inner workings of the individual. Those inner workings so necessary to efficient learning benefited by a catalyst -- sympathetic understanding

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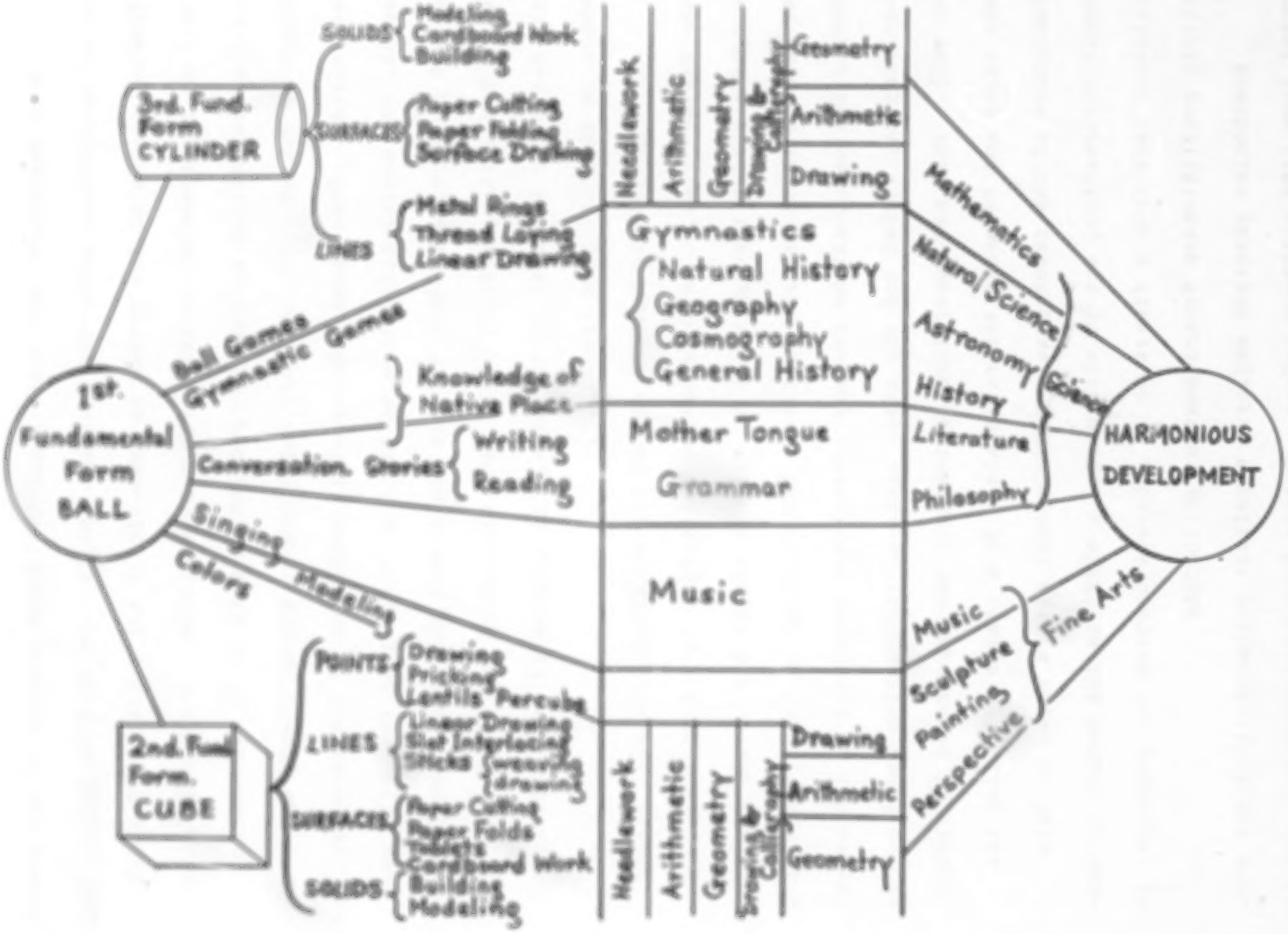
[1] Wiggins and Smith, 1896: 11.2


1st. Fundamental Form BALL
3rd. Fund. Form CYLINDER
SOLIDS
Modeling
Cardboard Work
Building
SURFACES
Paper Cutting
Paper Folding
Surface Drawing
LINES
Metal Rings
Thread Laying
Linear Drawing
Ball Games
Gymnastic Games
Knowledge of Native Place
Conversation. Stories
Writing
Reading
Singing
Colors
Modeling
2nd. Fund. Form. CUBE
POINTS
Drawing
Pricking
Lentils Percube
LINES
Linear Drawing
Slat Interlacing
Sticks
weaving
drawing
SURFACES
Paper Cutting
Paper Folds
Tablets
Cardboard Work
SOLIDS
Building
Modeling
Needlework
Arithmetic
Geometry
Drawing & Calligraphy
Geometry
Arithmetic
Drawing
Gymnastics
Natural History
Geography
Cosmography
General History
Mother Tongue
Grammar
Music
Needlework
Arithmetic
Geometry
Drawing & Calligraphy
Drawing
Arithmetic
Geometry
Mathematics
Natural Science
Astronomy
History
Literature
Philosophy
Science
Music
Sculpture
Painting
Perspective
Fine Arts
HARMONIOUS DEVELOPMENT

from the teacher.

Both Pestalozzi and Froebel modeled their concept of the school as an institution after the home and family. In writing Mother Play, Froebel presented the mother as symbolic of all social virtues as well as instrumental in their early acquisition. Pestalozzi made little distinction between how youngsters were to be treated in class or out of class in their dormitories, dining rooms, and social activities. Even though the specific mechanics of how parental, personal, and social activities in the home influenced the child remained obscure, educators did not doubt that the atmosphere created there had lasting effect. That same atmosphere had to characterize the school as a social institution. In diagram it would set up as shown on the next page (page 107).

By looking into himself and at his relationships with others, the Pestalozzian, a representative individual in a normal society, sought a window through which to witness mental and social processes at work in their natural habitat. Descriptions of inner operations became the explanations for why instruction conducted in the object teaching way worked and why other kinds of instruction would not do so well. Each new generation of teachers was encouraged to revise the rules and renovate the rationale. Such change signalled the emergence of the teacher as a professional with a voice in talk about instruction, but it also marked a shift in the nature of educational talk from a direct to an indirect concern for practice. It veered practitioners toward amateur philosophy.

Monitorial practice employed expedient rules-of-thumb and executed them like military orders. Coming from administrators who did

CONCEPTS BASIC TO OBJECT METHOD*

	Individual	Instructional	Institutional
intra	Sensory experiences arouse feelings within the individual which give qualitatively different kinds of understandings upon which future learning can build and draw	Contacts with particular objects must provide the basis for an understanding of abstract concepts in any field	The classroom is similar to the home. The teacher provides sympathy and acceptance to stimulate interest and inquiry
inter	Allowance for a broad range of normal behavior for each individual and provisions for interaction between youngsters must be paramount	The connection between particulars and abstract concepts drawn from then must be exploited	
super	The younster appeared to be a plant drawing understanding from sensory contact as a leaf draws nourishment from sunlight	The child must achieve an understanding of what the world is *like* and what it is *about* in terms of forces, concepts, and ideas underlying sensory experiences	

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*For more extensive development and citations see Part One, pp. 33-50.

little or no teaching, these rules encountered almost no feedback; and the directness of talk about practice deteriorated. The slackening of attention to specific content to be achieved in the classroom accompanied the recognition that instruction could lead to many kinds of learning, only some of which were included in skill mastery, drill, and memorization. Interest in the behavior of pupils, and especially in those inner workings of their minds, suggested new ways in which the outcomes of instruction could be talked about. Instead of translating talk about the inner workings of the individual into terms observable as the consequence of instruction, the aims of instruction were specified in terms of the inner workings of the mind.

Such biographical phrases as "need fulfillment" and "student interest" became ever more prominent in talk about instruction. Formerly, under monitorial method, talk about education had remained a-theoretical and thus never lost its connection with practice. Through the speculative tendencies of talk about object method, the efforts at building a theory of how the child worked inside himself forced talk about practice to adopt the vocabulary of biography. The connection between theory and practice remained close only because talk about both employed the same rhetoric. In fact, practice had been cast adrift; and no one seemed to notice until the Herbartians appeared. Alarmed at such chaos, the Herbartian rational science sought to establish a genuine rather than a rhetorical connection between talk and practice, on the one hand, and yet build a more systematic theory than object teaching had erected. In short, it created a general conception.

3. Herbartianism: Never widespread beyond the northeastern cities of the nation, monitorial practice had weakened with age and abuse when object teaching bid to become the dominant instructional technique in the new elementary schools being built all over the country. In contrast, object teaching had neared full strength, both in the extent of actual influence and in the development of a rationale, when Herbartian practice appeared in force about 1890. A head-on collision in the public schools would have been inevitable if both programs had been on the same track. Object teaching had remained concentrated in public elementary instruction, however, and Herbartianism made its early gains in public and private secondary instruction. The conflict, therefore, developed first among the concepts talked about. On the level of instruction itself, the battle broke out a generation later; but the circumstances had been reversed. Herbartianism, deeply lodged in public secondary instruction by then, became the force resisting the new expression of the object method viewpoint which sought institutional form under the heading Experimentalism.

In 1890, however, the Herbartians were the innovators; and they needed a powerful thesis -- more powerful than object method. A mere revival of monitorial method would not do. The attention of object teaching to method and things at the expense of emphasis on more abstract learnings left an opening in talk and practice which Herbartianism filled with strong partisanship for literature and history. But primary concern in building the rationale went not to such content achievement but, rather, to the all-embracing goal it facilitated -- moral character. Conceived to be the result of all proper instruction, moral character formed the tent within which other questions about education had to be arranged.

"Moral character" served the Herbartians as a unifying concept both because of its ambiguity and because of the consensus it commanded. This paradox was the fulcrum on which Herbartianism balanced as the century changed. Just ambiguous enough, moral character allowed anyone to insert his own particular variations of the Christian ethic without becoming a dissenter. Though vague, as with the meaning of democracy, such phrases as Christian ethic and moral character commanded consensus from the layman even though he could not, and did not, define their content. In those days before modern anthropology, when ordinary citizens sought some common bulwark against atheistic implications drawn from evolution, such general terms cemented together religious thought otherwise helplessly diversified in a pluralistic society. Moral character and the Christian ethic stood for the common viewpoint. Even though unspecified, moral character stood for behavior to be expected of all men of good will regardless of their particular faith or immediate circumstances. And Herbartianism promised it as the product of instructions.

Coming after the concern of object teaching for child interest and teacher sympathy, the Herbartians could not merely reassert simple monitorial obedience. "Interest" had to be included, but it did not have to retain its earlier meaning. Taking it out of the context of sympathetic acceptance in a home situation and placing it next to will and obedience, effectively altered the concept. In the name of morality, interest became a debt owed to both the teacher and the content.

Whether newly arrived or settled for generations, Americans carried the European indoctrination in obedience to authority deep in their basic family units, even while revolting against it as a form of civil government. Next to the family itself, the school had become the most personal living place for an ever increasing number of Americans. The benevolent paternalism connected with the family, even if not exercised, provided the concept of obedience the Herbartians expected throughout the school. The teacher, a father surrogate, served as moral model; and this absolved him of the object teaching demand for sympathy. Instead, he had to extract obedience disguised as interest.

The proper presentation of the right material at the propitious moment by an informed person would create interest, Herbartians reasoned. This ideal combination failing, the child who saw the worth of the material presented would mobilize his will and take an interest. On the other hand, when the teacher had taken precautions in selection, preparation, and presentation of material, the student who showed no interest brought suspicion upon himself. Except in cases of gross error in selection, negligence in preparation, or incompetence in presentation, the student owed interest in the name of what was best for him. And as every Herbartian knew, interest appeared as the enthusiasm with which the student did what the instructor wanted him to do -- a desirable beginning for moral character based on conformity to established standards. Will was the internal mechanism upon which interest depended when spontaneous generation failed, thus making it an indispensable element in the ultimate product -- moral character. In practice, interest and will came out as obedience to authority; but even so, the Herbartians had been brought to the recognition that something went on inside the child. To explain those internal happenings they had apperception and the culture epoch theory.

With the concept of apperception and the culture epoch theory the Herbartians generalized about the development of human nature and about how the mind learned. Yet a general conception of practice not speculation continued to be the Herbartian center of gravity, and each broad generalization emerged first as a method or technique and evolved into a particular practice to be employed in the classroom. The stages of human development charted in the culture epoch theory explained the process by which man and children became civilized, responsible, moral agents. The stages of that process indicated which literary and historical lessons would fit the stages of development the child passed through from the beginning to the end of school as he moved from savage to civilized. A logically organized curriculum with specific content designated for each year resulted.

In similar manner, the theory of apperception outlined the general steps by which the mind learned, thus pointing out how teaching must be done -- preparation, presentation, examination, generalization, and application. This reinforced the well organized content lecture backed by an extensive lesson plan set within chronological grade placement and a pattern of prescribed courses of study for each year.

The Herbartians put numerous monitorial commitments to work in modernized dress. Even when the terminology resembled that of object teaching, the spirit remained opposite. Herbartian pedagogy, stripped of its elegant rationale, stood for the following:

1. The primary importance of abstract thought such as ideas about justice and virtue attained from subjects like literature and history.

2. The power of lessons from literature and history to change behavior.

3. The necessity of obedience to authority in both content learning and moral training.

4. The importance of order in all aspects of learning: first, the orderly presentation of lessons according to the five steps; second, the order of the content to be learned as determined by scholars; third, the order of the curriculum from first year to final grade; and finally, the internal order of a controlled will and thus a directed interest, resulting in obedience.

Diagrammed it reads as shown on the next page (page 114).

Herbartian thinking opposed object teaching in at least two ways: first, the Herbartians kept their concepts directed at the practical, moral, and content commitments; and second, their attention gravitated toward more specific rules-of-thumb. The Herbartians sought to understand child nature in connection with techniques for injecting content into him and for imposing control on his behavior: interest and will mobilized as conscious and subconscious obedience would impress the lessons of literature and govern their use in life. With interest and will assured, the rest of learning needed to be arranged only for maximum efficiency. Exactly how the lessons from literature and history influenced moral behavior remained unanswered in terms of psychological mechanisms. The assertion of a causal connection between abstract ideas, obedience to authority, and the

BASIC CONCEPTS OF HERBARTIANISM*

	Individual	Instructional	Institutional
intra	1. Interest would be triggered off by content which fit the stage of development the child was in, and if it didn't the child should use his will to force interest 2. Mind learns according to five stages of apperception	1. Content must be presented according to the five stages of mind 2. A child who has failed to master necessary background cannot go on to the next lesson or the next grade	As in a well run Boy Scout Camp, benevolent paternalism is necessary and best. Like a scout master, the teacher is a model of skill, knowledge, and moral character. Too much familiarity leads to contempt
inter	1. Each age group has its appropriate stage of development and thus grade grouping provides homogeneity 2. Stages of child development parallel stages through which the race has passed	1. The curriculum must be organized according to stages of the race's development Each year's work should be concentrated around a literature and history core of content	
super	The child, a social embryo destined to develop according to a known pattern, must be guided in a moral direction	Social evolution will develop ever more cultured and knowledgeable civilizations and the schools can accelerate this progress	

*For more extensive development and citations see Part One, pp. 51-75.

moral goals of all education had to suffice.

In the search for answers about how child nature operated, the explanations provided by object teaching showed no more depth of causal understanding than those of the Herbartians. But this search was carried over into a new educational program, at once more narrowly focussed on child behavior and more given to talking about practice in terms of the feeling and inner workings of the pupil -- child study.

4. Child Study: Herbartian paternalism went beyond the organization of content by scholars for the future benefit of the pupil and society. It demanded that will and interest be exhibited by personal orderliness, obedience, and effort. The classroom atmosphere abounded in constraint. Quite different in temper, object teaching insisted that whatever the organization of content specified by scholars, it must be preceded by personal physical contact with appropriate objects or involvement in related activities if learning were to be optimum. This handling of objects and the activities attendant to learning were to be conducted in a non-constraining atmosphere. Without abandoning order, they hoped the teacher would provide sympathy for the youngster and acceptance for his fumbling efforts. This way he could engage in many different activities, all quite normal to exploration. In place of constraint, they sought elbowroom.

In 1890, however, as child study grew in strength, public schooling programs had not yet grown to include so many pupils that continuity between elbowroom at the elementary level and constraint at the secondary level seemed a serious problem. Both points of view continued to gain momentum.

Added to the Pestalozzian habit of introspection, the observation and reporting of child behavior seemed a catalyst, first, in transforming teacher attitudes toward children and instruction; and second, in providing information and insights into child nature which would both advance and clarify understanding of how students felt, learned, and behaved. Observation and reporting would result in a "reverent interest in all realities and mysteries of childhood," as Russell put it. The teacher would become sympathetic toward youngsters (re-enforcement for object teaching) and accepting of an even broader range of normal child behavior.

Child study insisted that to be understood children must be observed and that to be maximally meaningful observations must be objectively reported in terms of behavior. Occurring at the very opening of the survey and measurement movement, such rigor seemed to point to a whole new conception of talk about education. But, in fact, the rigor and the reporting went for naught since the principal purpose of observation and reporting was a practical not a scholarly one: the stimulation of teacher sympathy for students and the acceptance of a broader range of normal behavior in the classroom. By using terms appropriated from the discussion of how the internal mechanisms of child nature were supposed to operate, child study advocates filled talk about education with the terminology of attitudes and feeling states. Thus the whole emphasis on objective reporting of observed behavior was negated by the move to carry the discussion of practice into the inobservable world of processes supposed to go on inside the child.

Burnham spoke entirely in terms of internal processes when he claimed that child study placed emphasis on the active, the productive, the creative in education. In such talk about instruction the teacher with the appropriate attitude of sympathy and acceptance would release the child's creative potential. Instruction would hover around the expressive, the internally governed, the curious, but most of all, the whole child.

To eliminate the insistence on obedience so basic to Herbartian paternalism, child study introduced a self-governing principle which, at once, overcame the appearance of disorganization introduced by an increase in physical activity; and it also took the question of order into a discussion of processes operating inside the youngster. The worst external chaos in the classroom might be a reflection of the most peaceful internal order within the child. Committed to the principles of beginning with careful, objective, diversified observations, child study nullified this by petitioning teachers not to be deceived by appearance. If observation marked the beginning of reporting, reports of unobservable internal states marked the results even though the program at Worcester warned against such interpretation. Charted, the basic concepts fill the diagram as follows:

	CONCEPTS BASIC TO CHILD STUDY*		
	Individual	Instructional	Institutional
intra	The child is viewed as an active, expressive organism which suffers and fails to grow naturally under unnecessary restraints or imposed order	There had to be an increase in physical activity in the classroom and encouragement of the expression of personal opinion and feeling	1. School should be permissive like a home or nursery 2. Teachers should be as autonomous as gardeners who tend different flowers in different parts of the world
inter	Freedom of self-expression would lead to self-control, and do away with the necessity for artificial restraints	Activities such as project work, handling things, discussing things of personal interest, were to lead to creative expression as developed in music and painting	
super	The hope was for a creative, self-regulated youngster who became intensely involved in his work. The child, like a flower, needs the right climate and garden to grow best	Creativity, self-regulation and involvement would characterize all instruction and would foster growth of the "whole child" (emotional and physical development would be added to intellectual growth). Allowed to unfold like petals on a flower, the child's creative expression will exhibit the same natural beauty. Thus he was to be a kind of natural artist	

*For more extensive development and citations see Part One, pp. 77-99.

The Herbartians used "will" and "interest" as causal mechanisms. In the same manner child study spoke about the internal workings of mind, understanding, and growth in terms which served as interchangeable tokens in talk about the process of learning and the consequences of instruction. But the point is that both Herbartian and child study advocates spoke about what happened inside people and what caused behavior changes as if anyone could "see" these internal events and causal connections. They were, when thought about "obvious" and, hence, understood for the naming -- interest, will, activity, creativity.

Assembling a brief for formalism in both content and control, the Herbartians employed terms from the rational psychology and the philosophy of individualism. Child study adopted terms from the equally individualized genetic and experimental psychology just emerging. But in the twentieth century, as bureaucracy invaded both business and government and the revolutions in communication and transportation expanded daily associations, psychology became social. In such a milieu Experimentalism appropriated the vocabulary of child study and expanded it into a new terminology of group behavior: "active" became "interactive," "objective" turned social as "inter-subjective," "productive" came out "cooperative," "expressive" -- "collective," and "creativity" changed, like an emerging butterfly, into "consensus." The language of "individual effort and accomplishment" became group talk of "communication and agreement." Individualistic or social, the processes so designated were still to be understood for the naming whether referring to the institution, instruction, or the individual.

5. Experimentalism: After 1915 both elementary and secondary schools sped toward the inclusion of the great majority of youngsters, regardless of background, preparation, ability, or facilities. To have something for everyone became an insistent demand as numbers and diversity of youngsters increased. Answering for the elementary school, child study said in effect: "worry less about the content to be given to all and more about the expression to be obtained from each." Yet this outlook aggravated the problems of content continuity and transition from elementary to secondary school, a problem which became important in direct proportion with the ever growing number of students completing elementary school and gaining admission to secondary school. The Herbartians, however, had solved the continuity problem for secondary schools and offered recommendations for unifying the whole curriculum: organize content daily by the five-step method, monthly and yearly around the core of concentration, and throughout according to child development stages as identified by the culture epoch theory. There it was: the practices which would make room for diversity lacked continuity, and those so provident of content continuity could not accommodate the diversity already present and bound to increase. The consequence -- civil war in public education.

Elbowroom in Teaching: After 1920 the need for a program that would accommodate all normal children began to dictate how achievement and continuity would have to be defined. Awareness that academic content, no matter how well presented, could not reliably or continually stimulate effort was added to the realization that continuity, no matter how logical, did not guarantee high retention. The absence of a proven program which would achieve such results encouraged widespread trial and error experimentation with the hope that new techniques of instruction could be found that would arouse the interest that generates effort. As teachers searched for the activities and the involvement that would assure mastery and secure further effort, they found it necessary that they and the students have more freedom of intellectual and physical movement than Herbartianism or even object teaching allowed. To do something for all those children and to have them do something for themselves required more freedom, that is, more elbowroom. Some constraints had to be removed, and it took no deep philosophic insight into the nature of democratic society or profound psychological knowledge to know it -- even corn needs room to grow in.

Academic carping set aside for a moment, Dewey's 1928 characterization of progressive practices* illustrated in each statement one or more of the following traits directly or indirectly associated with elbowroom, spontaneity, or ostension:

1. The intensity of the revolt against formalism
2. The emphasis on child study expressionism
3. The need for freedom for the child to work in
4. The fact that the school program was for everyone
5. The formulation of object teaching and child study recommendations into new generalizations about social processes.

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*For more extensive development and citations see Part One, pp. 242-7.

Arranged from the general to the more particular and back to the comprehensive again, those elements of progressive practice provided an excellent glimpse of the spirit of practical elbowroom as follows:

1. Increased freedom
2. An atmosphere of informality
3. Respect for individuality
4. Disbelief in artificial personal relations
5. Enough external freedom and informality to enable teachers to become acquainted with children as they really are
6. Emphasis on activity as distinct from passivity
7. Building on the nature and experience of the child
8. Not imposing external subject matter and standards from without
9. Respect for self-initiated and self-conducted learning
10. Respect for physical activity as the stimulus and center of learning
11. Formalization as hostile to genuine mental activity and sincere emotional expression and growth
12. Belief in social contact, communication, and cooperation upon the normal human plane as the all-enveloping medium
13. Attention to the human factors.

Each guide to practical elbowroom kept a corollary ready for a quick-draw attack against signs of constraint. That the generalizations and their corollaries served as effective weapons without requiring extensive qualification or explanation reflects the simple and direct nature of the beginning of this revolt against constraint. Increased freedom, informality, respect, communication, and cooperation had to do primarily with the "atmosphere" of practice. In a sense, atmosphere is to the group what attitude is to the individual. Numerous practical activities, such as having children in charge of regulating the shades in the classroom, could be implemented quickly to show movement toward increased freedom. Any number of incidents, such as standing for recitation, could be raised as evidence of constraint.

"Atmosphere" like "reputation" involves two difficulties: it's not a matter of getting one but rather the kind and the extent. Such phrases as "increased freedom and activity," "building on the child's interests and experiences," "satisfying needs," and "encouraging social contacts," each carries with it those same questions: precisely what kind and to what extent or degree. Without such specification the phrases remain wholly ambiguous. Certainly elsewhere the statement of an intention to hunt must be followed by a specification of whether it will be rhinoceros for trophy or star-fish for photographing before any decisions about equipment can be made.

The great failure of the literature of professional education is that for the greater part of the twentieth century it has done everything to exploit this ambiguity and almost nothing to explicate it. In search of agreement among practitioners instead of a clarification of specifications, the authors of articles in professional journals and textbooks consistently and steadfastly declined to specify what experiences should be offered, what interests should be considered, what needs should be satisfied. Practical talk thus lost substance and could only rearrange words in search of more felicitous ways of saying the same thing. Rhetoric, no matter how scholarly might be its exploitation, cannot make a practical discipline.

Continual and extensive reliance on ambiguity does not occur without reason. No sooner is the particular activity to be encouraged than a new question follows: "Why this one and not some other?" To this, the only substantial answer requires empirical evidence of the consequences of employing one activity in instruction as against alternatives. But such evidence cannot be found. And if it could, further evidence would be required to indicate the amount of time students should spend on such an activity as wilderness camping as against writing letters to Congressmen. In the absence of evidence, only the acceptance of general answers as if they provided specific direction can avoid such embarrassment. Hence the prominence of general conceptions.

The absence of persuasive evidence makes any statement of specific activities and experiences to be provided by the school the possible subject of controversy. The writers of articles and textbooks in education, however, have attempted to overcome controversy through evasion. When the task of understanding instruction is viewed primarily as a matter of practical human relations, not as a matter of intellectual comprehension and technical skill, controversy seems unhealthy because it unsettles people just as it unsettles thought. If the clarification of ambiguity can be achieved only through controversy and the sacrifice of practical harmony, then comprehension must stop short of genuine inquiry. Here is the reason why a discipline of education which is primarily practice centered cannot be directed toward harmony among practitioners. Practical concepts and a genuine discipline become mutually exclusive when thoughts must be censored for possible consequences among teachers or administrators. Self-defeating conditions prevail when ambiguity is more cherished than clarity and specificity. Physical science had the same problem when information about the heavens had to be screened for its religious implications before being made public. Putting art to the service of state is no different. So long as personal opinion sets the criteria of meaning, knowledge must be subordinate to the will of practitioners. This is antithetical to the development of an intellectual discipline.

Nonetheless, the two questions -- what kind and to what extent -- do not go unmentioned in talk about "satisfying needs" and "building on the child's interests and experiences." The pretense at answering leads to endless variations on two words: good and right. The school should include only good activities and experiences, naturally. This evasion of specificity occurs in such phrases as "socially acceptable activities," "productive skills," "democratic attitude," "enriching experiences." In response to the question about the amount, extent, or degree of such activities or experiences, all variations on "the right amount" appear. Hence such phrases as "adequate to the realization of optimum growth" occur as if they were answers to the question about how much time the school should spend on writing skills and driver training. "Sufficient for the achievement of excellence" and "adequate to insure job success" are phrases everyone can agree upon when no one has to specify what they mean. By contrast, every bride knows the exasperation of acting on such evasive talk the first time she asks her husband, as he leaves for work, what she should get for supper. If he replied "Get a roast," she would buy lamb, but he would want beef.

Expanded Talk: During the 1930's equal partnership in the home changed child rearing practices and husband-wife relations. Businesses had to listen to labor and instituted personnel management programs. In such a climate, educational elbowroom made indelible changes in the practical routine of schooling. Youngsters had more to say and a greater variety of things to do than ever before. In the schools something for everyone became fact, but not without cost.

Diversity in abilities and the sheer numbers of students had expanded so fast that trial and error experimentation had not been able to provide comparable improvement in techniques for instruction. But sheer quantity, and diversity in ability and background, could not justify exclusion of students from school since the trend was exactly opposite. Nor could the inevitability of decline in the quality of instruction be admitted. Somehow, practice had to be buttressed against a decline in the quality of accomplishment with words if not with facts. Since the formulation of working principles through trial and error could not be hurried appreciably, and since something had to be said, talk about how to teach took on many of these characteristics of political speeches:

1. Denial of decline: youngsters spell better now than ever before.
2. Attention to what should and could be: ends (goals) must be discussed and agreed upon before means (methods) can be judged appropriate.
3. A preference for the general and abstract over the concrete and particular: practice unguided by philosophy is blind and a philosophy not rooted in metaphysics is adrift.

4. A dismissal of what is with a loaded word: Traditionalism!

5. Expectation that the teacher's attitude is sufficient to change student performance: "belief is the fuel and the radar of action." The committed teacher is the communicating teacher. A proper attitude toward youngsters is more important than mere technical competence in method or knowledge of subject matter.

6. A re-defining of accomplishment: social adjustment, effort, growth as measured against past performance.

7. Suggestions of general strategies the practitioner must make operational: core curriculum, unified studies, broad field programming, fused course (all integrating content while achieving "significant guidance objectives" through an "enriched curriculum").

8. An untestable general method: five steps of scientific method as applied to information problem solving, intelligent decision making, and the building of new values.

9. A comprehensive moral tone: the whole child, the adaptable personality, the well-adjusted child, the creative individual, the well-rounded person, a balanced personality, a contributing member of society, a good citizen.

10. Hollow phrases: "Play must be an element in the good life." "All education is training in leadership."

Such statements did not advance practice so much as they aggravated dissatisfaction with established techniques of instructing and served as blanket permission for indiscriminate experimentation in classroom procedure. As the need for some stop-gap to fend off a decline in instructional quality increased, rashness in experimentation often turned to riot and innovation. Without evidence to offer in support of such innovation, the only defense was talk. The language of education exploded with loaded phrases about the individual, instruction, and the institution of public schooling. Possibly the best way to illustrate that explosion is to employ some of that language in the following chart:

BASIC CONCEPTS OF EXPERIMENTALISM

	Individual	Instructional	Institutional
intra	Meeting his felt needs and tapping his genuine interests would provide intrinsic motivation and enable him to achieve genuine emotional expression within the bounds of self-imposed discipline. (Basic concept) - Satisfy his biological and social needs	Psychological organization of content will replace logical and chronological organization as the need for a particular skill or body of information in the solution of a problem suggests the child is ready and motivated to master it. (Basic concept) 1. Useful and functional learning. 2. Self initiated learning	Scientific method problem solving of real problems in the classroom, among the staff and involving the citizenry would make the school democratic. (Basic concept) - Democracy. Thus the school was a miniature democratic community
inter	The increased activity of project work would provide a stimulus and an outlet for creative expression. Group work would facilitate social adjustment. The student would build a better picture of himself by seeing himself reflected in the responses of others toward him. (Basic concept) - Cooperation	All knowledge is initially of equal worth but some knowledge is more relevant than others in any particular problem. Project work employing content and skills as needed would reveal all knowledge as interdependent thus overcoming artificial compartmentalization. (Basic concept) - Project work activities provide best learning	Serving the whole community the school would become a model service institution and both an example of, and a training ground for, intelligent democratic participation in solving social problems. (Basic concept) - Social problem solving

BASIC CONCEPTS OF EXPERIMENTALISM (concluded)			
	Individual	Instructional	Institutional
super	Cooperative planning would give experience in decision making thus teaching him at once, responsibility for his choices, cooperation, tolerance for the views of others, and the value of consensus. Decisions made in pursuit of desirable goals would enable him to build functional or operative values and improve his moral behavior. Thus the individual had the crucial facets: he was 1. a "needs system" searching for answers and satisfaction. 2. a critic of all a priori moral rules yet a socially responsible law maker constantly rebuilding institutions to maximize welfare. This has been summarized in the concept of "responsible citizen" or social critic	The interest generated by problem solving would extend beyond formal schooling and compartmentalized content and lead to self-initiated learning and critical thinking about problems through the systematic use of scientific method. (Basic concept) - scientific method and science of values	The school serves the society best by training the next generation to rebuild its own set of values so that they emerge as adults prepared to embark on peaceful revolution through social reconstruction. (Basic concept) - continuous revolution

Possibly no other professional literature provides so complete an account of the liberalism of the 1930's as does the talk about

Experimentalism. Gestalt psychology, permissive child care, nondirective counseling, equalitarian organization, diversified authority, cooperative planning, relative values -- central attitudes of the prewar decade -- emerge from statements about the individual, instruction, and the institution. The terminology represented a vast amalgam: explanation of needs, motivation, and achievement were set in the matrix of the social psychology of groups but were biased in favor of the cultural relativism so important in anthropology, philosophy, and literary essays. Further, the unity-of-science movement and the efforts toward a science of values appear in the project method and the concept of solving moral problems by the scientific method (at once an overarching moral aim and a methodological answer to the Herbartian five steps of instruction).

The unemployment of the depression rings from each effort to cut back on academic subjects in favor of learning that will insure almost immediate earning power, security, and eventual welfare. This, coupled with the increased importance of science in a technological society, provided a combination nearly fatal to already encrusted foreign languages and to humanities subjects grown complacent and even cocky under Herbartian approval. And as super-concepts, the attitudes of secularism, and sympathy for the common man joined to support moral self-determination and reconstruction. This gave new vigor to a redefinition of democracy in connection with the New Deal ideas of welfare but eventually led men like Rugg and Brameld to insist on indoctrination of belief in Democracy.

The humane and liberal attitudes of the depression provided the nutrients on which talk about Experimentalism ripened. A different concept, however, governed the manner of expression. By insisting on the inseparability of means and ends, John Dewey sought to weld talk about goals to be achieved to concrete means for their accomplishment. But in such an immediate and practical activity as teaching, an unimpeachable connection between ends and means depended on some empirical proof of what instructional techniques specifically accomplish. The achievement of a connection between concept and practice depended on information. Trial and error experimentation during the 1930's had not added appreciably to the reservoir of proven techniques or increased the supply of established rules-of-thumb, however. Yet in the expression of aims Experimentalist talk reached as far as the imagination could stretch without worrying too much about the reliability of techniques for accomplishing the ends-in-view or the availability of skills by which practitioners would make techniques work. Not only did aims outreach proven technique and available skills, but they sometimes reached beyond, first, the possibility of proof, and second, the likelihood of necessary skills ever being in extensive supply.

Maintenance of a connection between such extended aims as social reconstruction and classroom instruction in the absence of techniques known to be workable meant either that the aims would have to be restated to fit in with demonstrable methods or that the statement of methods could not be made in operational terms. Unwilling to be constrained to proven or even provable techniques and committed to the ends as stated, talk about Experimentalism retained only a verbal link with practice. Talk about methods became as purely rhetorical as talk about aims, and the link remained unstained since the two kinds of verbalizations were indistinguishable. This can be dramatically illustrated by the following chart which shows the dual usage of basic concepts in experimental talk. The same words serve interchangeably as process terms for explaining internal operations, such as thinking, or as product terms for designating the results of processes, such as when consensus is achieved:

PROCESS-PRODUCT INTERCHANGEABILITY

	Individual	Instruction	Institution
intra	Need satisfaction	Self-initiated learning. Useful and functional learning	Democracy
inter	Cooperation	Project activity and interrelated understandings	Social problem solving
super	Consensus	Scientific method and a science of values	Continuous revolution

This interchangeability of process and product terms accelerated the tendency to speak of aims and achievement as internal happenings taking place within the individual, the group, or society. Philosophy of education, historically the matrix from which statements of aims emerged, became saturated with introspective talk. Further, talk about methods of teaching, properly a matter of concern for educational psychology, began increasingly to resound with philosophic statements about human nature and the nature of experience both immediate and ultimate. Once talk about practice lost its connection with operational procedures, talk about education ceased struggling to build theory and generated only rhetoric. Though that rhetoric used the vocabulary of philosophy and of psychology, it was neither of these but, instead, simply professional shop-talk. As such verbalizing took over in teacher training courses, it became even more sensible to say "That sounds good, but I don't know how to make it work." And this, after all, is the sum of what teachers meant when they offered the misstatement "It's O.K. in theory, but it doesn't work in practice." In fact, many complex ideas had no practical bearing but remained graced with the name "theory."

The responsible use of knowledge from psychology and sociology for the improvement of practice became almost impossible when the ends ran away with the means and when talk about both became more a matter of style than substances. The interchangeability of process and product talk drowned any sound suggestions psychology might have made. Practice operated increasingly on expedience even though practitioners believed they had the benefit of guidance from the behavioral sciences and philosophy.

The Condition of Practice: Wearing no girdle, public schooling had to take the shape of whatever was poured into it. Blinded by rhetoric and left to the devices of expedience and trial-error experimentation, practice struggled to implement elbowroom. The absence of a lowest common denominator of achievement meant, inevitably, that some practices would be ugly and that the rhetoric of their defense would become grotesque in the extreme.

The faults of "progressive" practice do not rest with a particular philosophy or theory but rather with the lack of these. Only if the general search for elbowroom be credited as a philosophy or theory does the accusation stick. But even purely verbal defenses and rationale do perpetuate a trend already underway. Rather, the mistakes and the successes too were the failures and triumphs of necessary trial and error experimentation in which talk impeded rather than accelerated progress. The presence of more errors than triumphs should not be surprising.

Child study and object teaching generated the elbowroom which "progressive" practices employed, but no program of reform can be immunized against those techniques and thoughts which its opposition has planted so deep that they cannot be exhumed. Elements of Herbartianism had to be included in progressive education. Further, and this is the point, just as heredity blends indissolubly with the effects of environment in the adult, so progressive education emerged as much the product of its revolt against formalism as of its inheritance from elbowroom. The neighborhood in which it grew encouraged extremes, hence dichotomies.

Advocates of elbowroom in the classroom found in the stages of scientific method a step by step method of instruction which could replace the Herbartian five steps of formal instruction. The new method would require an increase in physical activity, and it would encourage question asking. But it could not be limited to science or even to historical academic content if it were to become a truly general method of instruction for the whole school. As the model for all problem solving, however, it could be comprehensive without being linked to any particular content. Thus, the generalized scientific method grew into a prescribed technique for solving moral problems as well as informational ones. By making this systematic, general method the major instrument in the development of behavior during daily instruction, progressive education purported to explain the relationship between social ends and pedagogic means without losing contact with the demands of practice. That philosophers did not like the logic of the connection mattered less than that teachers did. Such an appeal directly to the new personnel rather than to an objective criteria of cognitive sense proved to be an intellectual dead-end camouflaged as a short-cut to a discipline.

6. Current Academic Emphasis: This nation's greatest economic boom followed so close after this century's worst depression that attitudes and practices had little opportunity for graceful revision. Total war completely filled the brief space between the beginning of recovery and the flush of surplus. The demands of war production changed many industrial habits quite rapidly; but when the nation woke from the nightmare of war in 1945, people were not prepared to find the noon-time of prosperity already striking. Just as newly discharged GI's found only ill fitting civilian clothes in their closets, so did education have only prewar talk and practices once the military preparedness programs were scrapped.

The kind of instruction used "to give something to anyone when jobs were scarce for everyone" did not fit prosperity with its increased college attendance. More important, the rhetoric of discontent which encouraged peaceful social revolution through the schools no longer sounded like honest and healthy criticism as the possibility of communist inspired revolution and conquest mounted.

And again, rocks thrown at the distribution of wealth seemed harmless enough when the economy could go no other way than up; but as it approached what seemed the zenith, such criticism of output could only disrupt the precarious balance needed to keep production and consumption at the summit. In the absence of positive proof of the superiority of techniques arrived at by trial and error during the depression, the change in outlook which accompanied inflation and the cold war made the practices and rhetoric of progressive education seem, at best, naive and obsolete, and more likely, unsound and subversive. During the depression the problems of ordinary living were the most immediate and pressing and were therefore considered the most important. The ordinary problems of the great bulk of people seemed subject to common sense solutions. Education promised to help all citizens reason better about such matters. Further, the development of behavioral science promised to provide as much precise information about ordinary human and social matters as physics had supplied about ordinary objects and events. During the depression science and welfare had converged on the common man as sufferer, and education approached him as a potential savior.

By contrast, however, after World War Two, rocket supremacy and turning the atom into horsepower depended on the exceptional man of mathematics and physics. Nuclear defense and the exploration of space could be facilitated only by the talented few. Ordinary people once more became common and just a little obsolete, albeit, necessary.

To implement the moral commitment that everyone is of equal worth as a human being, instruction during the 1930's offered something for everyone. In extreme form this descended to anything for anyone. As the standard of living climbed, however, questions of human worth and dignity receded before problems of military preservation and expansion of production. The post-war tensions forced the admission that equal worth as a person could not be translated directly into equal importance for cold war survival. Since inclusion into the public schools of almost everyone in the appropriate age groups had already been accomplished, it became time to worry about achievement. And indeed, as the following chart (pages 137, 138) of problems and conflicting attitudes suggests, there was much to worry about.

Broadly speaking, the difficulties confronting American education after 1950 converged from three angles:

1. Natural change -- The switch from depression to prosperity, from isolation to internationalism, from what had seemed secure peace to cold war had been so gross as to produce a new national posture without a commensurate change in outlook.

2. Institutional expansion -- Nowhere, ever, had so many youngsters been included in a schooling program. The great diversity of abilities included in a classroom made it necessary to expand the available choices open to youngsters so far as to make it almost impossible to achieve efficient organization and effective instruction.

3. Strategic miscalculations --

DIFFICULTIES ASSOCIATED WITH PROGRESSIVE EDUCATION

Some problems which led to a decline of confidence in Experimentalism and the general approach to practice talked about during the 1930's under the heading Progressive Education

	Individual	Instruction	Institution
intra	Failure to control student behavior was too often defended as the need for freedom and expressive activity. (What is human nature like: natural disruption vs natural self-control and creativity)	Activities and projects drew attention from practice in composition and training in reading, spelling, and arithmetic skills. (What kind of teaching is best: activity for its own sake vs orderly arrangement of lessons)	1. Multiplication of committees 2. Committee opinion not used even when given 3. Groups manipulated by administrators and teachers. (How is the school best operated: business efficiency vs personnel involvement)
inter	1. Group work in committees and on projects aggravated discipline problems 2. Concern for social adjustment became an excuse for ignoring quality of accomplishment and organization of control. (Which kind of action most prized: collective vs individual judgment)	1. Lack of overall organization led to repetition of activities and of content 2. Many courses invaded by trivial content. (Immediately useful vs established knowledge)	1. Services to the community multiplied beyond possibility of efficient control 2. Excessive non-instructional teacher responsibilities such as milk money and athletic supervision at evening games. (What kind of teachers do we have: dedicated vs job holders)

DIFFICULTIES ASSOCIATED WITH PROGRESSIVE EDUCATION (concluded)			
	Individual	Instruction	Institution
super	1. Delinquency increase blamed on lack of firmness in control 2. Increase in sexual experimentation among adolescents blamed on social adjustment programs 3. Moral confusion blamed on doubt of established values encouraged by educators (What kind of individual is sought: conformist vs social critic)	1. Some students were encouraged to write compositions questioning some things done in the U.S., praising some things done by the Soviets, and expressing the need for world government Interest in the humanities and scholarship replaced by interest in engineering and more immediately useful pursuits. (What knowledge is of most worth: established values and scholarship vs innovation and utility)	1. Fear that the U.S. might give up some sovereignty to U.N. by such groups as American Legion and Veterans of Foreign Wars 2. Feeling that patriotism and fighting power of soldiers declined in the Korean War 3. Concern over loss of initiative in such proposals as socialized medicine -- fear of the welfare state. Conflicting concepts of security. (Nationalism vs internationalism)

3.1 Quality Control: in quality of instruction and effectiveness of discipline educators had assumed that methods would soon be found which would accommodate unlimited diversity and still maintain high levels of achievement. They were not.

3.2 Idealization before Inventory: having emphasized education as a profession, teacher training institutions conveyed the idea of the teacher as a master craftsman turned artist without bothering to take inventory of the techniques available for achieving minimums of control and accomplishment. Talk about the ideal covered up ignorance is to the mechanics of instruction.

Under pressure of such problems it made good sense to seek something safe. And safety had two practical meanings: one pedagogic and the other national. Pedagogic safety rested with method and content which could be credited, in some sense, as tried and not found wanting. This dictated that the ends would be controlled by the means previously found useful in such incontestably important matters as basic skills and behavior control. In addition, national safety demanded talent in the professions, engineering, science, and military planning -- all areas with intellectual-skill and academic-content prerequisites.

In moments of panic this twin concern for safety became "to each student according to soviet successes; from each according to Cape Canaveral failures." In more sober form, however, this foraging for safety (sometimes characterized as a return to sanity) produced the Rockefeller Report, The Pursuit of Excellence, and the Conant reports on the high school and the junior high school.

If The American High School Today can be taken as representative, the following outline of its specific recommendations shows the current academic emphasis as far as it seems to have developed.

1. General education for everyone (9th and 10th grades)
    - 1.11 4 years of English (50% devoted to composition)
    - 1.12 3-4 years of social studies
    - 1.13 1 year of mathematics
    - 1.14 1 year of science

    (5 periods per week throughout the academic year)

2. For the academically talented (repeating elements prescribed for general education)
    - 2.1 4 years of mathematics
    - 2.2 4 years of one foreign language
    - 2.3 3 years of science
    - 2.4 4 years of English
    - 2.5 3 years of social studies

3. For marketable skills (with vocational programs tied to employment and opportunities)
    - 3.1 Office skills for girls
    - 3.2 Home economics for girls

    (½ day in 11th and 12th grades)

  - 3.3 vocational agriculture, trade, and industrial program for boys.
- 4. Guidance (one full-time person to every 250-300 pupils)
  - 4.1 Individualized program: no classification of students according to tracks such as college preparatory, vocational, commercial
  - 4.2 Ability grouping: grouped by ability, subject by subject, according to ability to perform in that subject
  - 4.3 Elective program: "Through consultation, an attempt should be made each year to work out an elective program for the student which corresponds to the student's interest and ability as determined by tests of scholastic aptitude, the recorded achievement as measured by grades in courses, and by teacher's estimates."[1]

The Conant report courts three virtues: balance, scope, and quality. Balance required that the teacher take into account the terminal student as well as the college bound. He could ignore no one: the retarded, the slow, the average, the talented, or the gifted. Scope required the something-for-everyone that a school's general program would provide for the abler students but also options of home economics, vocational training, and cooperative work projects. Quality could be found in those academically safe areas such as mathematics, composition, science, and foreign language. Here, the content has been sufficiently standardized as to suggest a sequence in which mastery must precede promotion and to insure the possibility of nationally standardized tests of achievement.

The appearance of balance dissolves, however, in a comparison of the amount of attention given different areas of instruction. The retarded and the slow student are to be accounted for by specially trained teachers and ability grouping. Further, with ability grouping and a sliding standard of achievement, Conant would adjust the general program to the slow and the average student. Guidance, cooperative work programs, available federal money, electives, take care of the terminal student. Having mentioned these categories, Conant gives fully eighty percent of his attention to the talented and the gifted college-bound student.

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[1] Conant, 1959: 2.

The only program given a specific and detailed structure is the one which continues as the present day vestige of Herbartianism. From the general program through the mathematics, science, foreign language, English, and social studies of the last two years, the academic core provides the backbone on which all other programs must be draped -- the norm from which all else is a departure. For all the talk about individualized courses of study, scope becomes a matter of fitting the student to the academic curriculum rather than fitting a curriculum to his capacities. The "interest" and "ability" employed in guidance are "*determined* by tests of scholastic aptitude, the recorded achievement as measured by grades in courses, and by teacher's estimates." Such a determination of interest takes the word back to an earlier Herbartian meaning. Mention, not attention, created the illusion of scope.

Progress in pedagogy is so slow that no one knows any better in 1960 than they did in 1930 how to have something for everyone and still maintain quality of instruction and achievement. The Conant report, and the academic emphasis in general, insist on quality, as this diagram of basic concepts illustrates:

CONCEPTS BASIC TO CURRENT ACADEMIC EMPHASIS

	Individual	Instruction	Institution
intra	The key virtues are initiative and integrity, especially as concerns intellectual matters, and they must be insisted upon. Eventually natural curiosity should triumph	Knowledge of experts and the talents of gifted teachers will be made available to most youngsters through such devices as educational TV, tape, and teaching machines	High achievement for the majority of youngsters in such subjects as mathematics, sciences, and foreign language sets the tone on which the rest of the school should be organized. Yet it must be run, like an efficient business, by a board of directors.
inter	Students must have the courage to resist conforming to group pressures. Love for knowledge will supplant need for acceptance in a club or gang	The content will be so well organized throughout the curriculum and from year to year that performance in skills will be high for most youngsters, they will learn foreign languages well, and be prepared for professional training earlier	The school is a basic training program for the professions, the arts, and science. National and even human survival -- military, economic, and cultural -- depends on the quality of that training. Basically, school is preparatory for college, the professions, and technical institutes.
super	This should produce 1. Dedication to science and to scholarship in general. 2. Breadth of understanding. 3. Discipline which leads to excellence. The child was seen as a natural resource essential to national survival	The dedication to scholarship and high achievement best illustrated in science foundation scholarship projects will become widespread yielding: scholars, scientists, professionals, military leaders	Enlightened nationalism

The academic emphasis recognized clearly that diversity of student ability, accommodated through the complete abandonment of standards, invites the apathy and mediocrity of performance that makes any claim to equal opportunity a farce. The whole emphasis on academic subjects hangs on the fact that high standards of broadcasting can be built into lectures. With the quality of instruction thus fabricated by scholars and with the required level of accomplishment set by experts on a national basis, local deficiencies in instruction and to some extent in student incentive could be minimized. Insistence on this approach to quality depends, in part, on a conviction that previous programs underestimated the academic abilities of youngsters and failed to tax them anywhere near capacity and, also, on the conviction that broadcasting is the better part of communication. Neither Conant nor other advocates of the academic emphasis have faced the possibility that the projected level of instruction and expectation might not be grasped and achieved by the great majority of secondary school students. They say nothing about what percent of the present student body will be educationally expendable for the sake of academic broadcast quality and test achievement of this sort. With virtually everyone in school, the issue of who shall be educated has been supplanted by concern for the kind and level of instruction currently employed.

CHAPTER SIX

POLARIZATION: THE DEFECT OF LITERARY TALK

In the foregoing chapters the major instructional traditions have been classified according to the proposed conceptual network. To make sense of the classifying process, and the categories filled, all five kinds of explanations have gone into the text and the diagram. In the diagram itself or in the text accompanying it elements of each of the following can be found*:

1. Philosophic Schools -- Idealism, Scholasticism, Realism, Pragmatism
2. Broad Intellectual Movements -- the Enlightenment, social Darwinism, etc.
3. Societal Developments -- the frontier, the Industrial Revolution, etc.
4. Conceptions of Practice -- the historical traditions themselves, including contemporary influences -- current academic emphasis
5. Changes in Practice -- information, tolerated behavior, clientele, etc.

All of these elements interweave so subtly that no clear-cut distinction can be drawn between them. Any thorough dissection of one kind of concept from the other would dismember talk about education so fully that the life would go out of it. Yet, earlier,** three important distinctions in kinds of literary talk were developed. They were:

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*Initially set forth on page 42.

**Page 86.

1. General Methods (general conceptions of practice): Kilpatrick's idea of the project method, etc. (notice that the Herbartian five-step method appears here as well as a subdivision of Herbartianism in the conceptual framework).

2. Literary Hypotheses: Kilpatrick's concept of purpose, Winters' moral attitude, etc.

3. Philosophic Generalizations: Kilpatrick's common sense link between elbowroom, freedom, and democracy, etc.

There is nothing mutually exclusive about these two ways of looking at talk about education.

Charting Tendencies: The philosophic schools and the philosophic generalizations have been set aside as too general for inclusion in a special discipline of education. They have as much to do with other areas of inquiry as with education. This does not make them irrelevant, merely general. Broad intellectual movements and societal developments are also too general. The changes in practice have been used in the suggestion of the model for instructional space. But the major emphasis so far has been in examining two kinds of conceptions of practice: the major historical traditions and general methods. From these must come the ingredients which can give rise to a literary discipline having a twofold utility: as a guide to practice useful in teacher training and as a prelude to a literal discipline. Both functions demand a literary discipline free of deception. The deception implicit in the historical traditions and the general methods seems to work in the following manner:

1. General methods which seem workable but which are really vague abstractions gain acceptance as if they were specific techniques to be employed in practice.

2. With the demands of practice seeminly accounted for, various fictional causal hypotheses are developed and made to sound like literal psychological or sociological theory through a wealth of introspective detail about processes only imagine.
3. The causal hypothesis joins up with a suggestive analogy about the nature of the individual, human nature, or the institution of schooling.
4. The literary analogy or metaphor becomes associated with a popular ideology.
5. The combination of fictional causation, metaphorical explanation, and popular ideology construct persuasive slogans and damning accusations and cast the whole discussion of education into a battle between polar forces.
6. Development of a discipline is thwarted as polar talk becomes popaganda directed toward brain-washing practitioners.

The particulars of this process of fashioning conceptions of practice into polar accusations can be illustrated from the conceptual network of classes developed in the previous chapter. The following chart serves the dual purpose of brief review and comprehensive comparison:

CAPSULE SUMMARY OF KEY IDEAS ASSOCIATED
WITH EACH MAJOR CONCEPTION OF PRACTICE

Key: Monitorial Method = MM
Object Teaching = OT
Herbartianism = Hx
Child Study = CS
Experimentalism = Exp
Current Academic Emphasis = CAE

	Individual	Instructional	Institutional
intra	MM disruptive OT sensing organism (receptive) Hx compelled interest: apperception CS expressive organism Exp need satisfaction CAE pursuit of academic excellence suitable for most	MM mechanical OT contact with objects Hx five-step method CS expression Exp interest and motivation CAE TV, teaching machines, experts	MM military OT home Hx paternalism CS home-studio Exp model of democratic process CAE efficient defense industry
inter	MM obedience OT normal range of behavior Hx culture epoch stages CS self expression and self control Exp cooperative action and social adjustment CAE autonomy to avoid conformity	MM units of content OT relationships Hx fixed curriculum CS personal interest Exp functional and related understanding CAE expert organization of content (academic)	Exp community school CAE model training ground
super	MM beast OT plant Hx social embryo CS creative artist Exp social critic-rebel CAE natural resource	MM mastery of abstractions OT real life understandings Hx natural social evolution CS whole child fully developed Exp scientific method of moral problem solving CAE scholars, scientists, etc.	Exp social reconstruction CAE national survival

Extracting the general methods and causal hypotheses from the conceptual network above and adding to them the conceptions developed by Kilpatrick, Monroe, Richards, and Winters in Chapter Three, the following simplified chart of general methods and causal hypotheses can be developed:

CAUSAL LITERARY HYPOTHESES CONNECTED WITH CONCEPTIONS OF PRACTICE

Source	General Method	Causal Hypothesis
Herbartianism	five steps	apperception
Experimentalism	(ostensive activity)	
Dewey	problem solving	scientific method applied to moral problems
Kilpatrick	project method	purposeful act
Monroe	cooperative planning	democratic process
Advocates of liberal arts	(didactic activity)	
Winters		moral attitude
Richards		subconscious communication

A full account of the direction literary talk about education has taken can only be gained when the analogies which grew from the major historical traditions are associated with the ideas they were credited with supporting. The next chart sums up those analogic literary hypotheses:

ANALOGIC LITERARY HYPOTHESES IN MAJOR CONCEPTIONS OF PRACTICE				
Major Tradition	Analogy of Metaphor (Individual)	Associated Idea (Human Nature)	Analogy or Metaphor (Institutional)	Associated Idea (Social)
Monitorial Method	beast	original sin	militaristic	Fascism
Object Teaching	plant or flower	naturally good gentle	home	permissive
Herbartianism	social embryo	elite	paternalistic	totalitarian
Child Study	artist	naturally creative	studio	anarchy
Experimentalism	rebel or critic	self determining yet cooperative (rationally governed)	laboratory	democracy
Current Academic Emphasis	natural resource	manageable commodity	defense industry	police state

Only now with the full panorama of major traditions, general methods, causal hypotheses, key metaphors, and analogic associations delineated can the full sweep of the tendency toward polarization in talk about education be illustrated. Here, in final summary, are the negative tendencies in literary talk about education as they focus on the polar accusations that have kept education from developing as a discipline:

NEGATIVE TENDENCIES IN LITERARY TALK: THE DEAD END OF POLAR ACCUSATION

Tradition	General Method	Causal Hypothesis	Key Metaphor	Association	Polarization	Accusation
Monitorial Method			beast military	sinful fascism	traditional	Traditionalists say progressives are: 1. soft 2. merely utilitarian 3. unable to control the youth 4. encouraging delinquency 5. creating conformism by group work 6. collectivistic and un-American
Object Method			flower home	good gentle permissive	progressive	
Herbartianism	5 steps	apperception	embryo paternalism	elite totalitarian	traditional	
Child Study			artist studio	creative anarchy	progressive	Progressives say traditionalists are: 1. tyrants 2. too abstract 3. forcing youth to drop out 4. unconcerned with individual differences 5. forcing youth into conformity by standardizing 6. totalitarian and un-American
Experimentalism	problem solving	scientific method	rebel laboratory	self-determining democratic	progressive	
Kilpatrick	project method	purposeful act	unit of procedure	democratic		
Current Academic Emphasis			natural resource	manageable	traditional	

Clearing Ground: Just as a city planner must dispose of a slum to build a park, so must the literary discipline be cleared of the tendencies which lead to polarization in order to be freed for its twofold function: illuminating practice and facilitating a literal discipline. The nine categories of the conceptual network expose all corners of a conception of practice and facilitate cross comparison between major traditions thus reducing the need for reliance on dichotomous distinctions which do violence to the facts. The network serves like an X-ray machine to expose the skeleton of a conception and thus reveal how much of what seems a healthy tradition on the outside suffers from abortive poetic analogy and incurable fictional hypotheses. But just as a physician must be able to read the X-ray, so must those who would cure talk about education of its illnesses be able to recognize a poetic analogy masquerading as substantive knowledge and a fictional hypothesis parading as a causal explanation. Those who cannot read a map are as lost with one as those without any map at all.

If the libraries could be purged of all materials about education which employed poetic analogy as substantive knowledge and fictional hypotheses as causal explanations, teacher training would be cut back so far by the admission of ignorance that courses in methods, curriculum, administration, and supervision might have to be dropped altogether. Ridding talk about education of its unjustified poetic analogies and fictional hypotheses is not likely to be a popular activity among those charged with the responsibility for training teachers and for developing a discipline, that is, faculties of education. If it is to be done, it will have to be forced from the outside. Like racial integration, it will never be done voluntarily. Too many jobs and too much power are at stake.

It would be well for a university to set up a special committee to look into what their colleagues in departments of education are saying in their courses and having students read. Someone has to arbitrate over what makes sense and what does not make sense in talk about education. And there is every reason to suspect that those least equipped, least trained, and especially least disposed to police talk about education are those who engage in it most freely.

The difference between art criticism and education as a discipline is in the fact that art critics constantly police one another in the judgment of what works will be admitted as art. Education does not direct itself to the judgment of practice in the same forthright manner. Art critics care most about their judgments and defend them jealously. Those who talk about education care least about practice and most about poetic analogies, causal hypotheses, and broader philosophic speculation. The similarity between art criticism and education as a discipline is that in both areas the fictional hypotheses like those offered by Winters and Richards, on the one hand, or Kilpatrick and Monroe, on the other, constitute the major portion of the intellectual content. Neither group has standards by which to fence off an area, to label it sensible, and to get it accepted as a model for how to talk sense on the subject. Without rules of meaning even a literary discipline cannot grow. All that grows is the volume of talk. The quality still depends on the accident of individual analysis, not on increasingly refined criteria of meaning.

Such "undisciplined" talk has little to offer in the training of teachers and less to offer in the development of a literal discipline. The classification of historical traditions according to the conceptual network displays the cavities in talk about education. Having seen the extent of the infected areas, educators should set about policing their own literature and take steps to use a minimum of such questionable talk in teacher training and advanced degree course work.

CHAPTER SEVEN

THE PROFILE: A NATURAL SYSTEM

The polar terms which dichotomize talk about education extend beyond "progressive" and "traditional." These are merely the collective phrases which gather up a whole flock of lesser dichotomies in the manner that the terms "old world" and "new world" or "American" and "European" do. The progressive is expected to be "liberal" and the traditionalist "conservative." Since the belief that pupils should be encouraged to make their own decisions of moral principle and establish for themselves the meaning of right and wrong, and since they will inevitably run head on into the belief that some things are unalterably right and wrong, dispute eventually turns to the philosophic question of relative vs absolute values.

If the progressive can be linked to moral relativism and the traditionalist to moral absolutism, the argument can float up into the stratosphere of metaphysical abstraction and never return to practice. Thus the progressive finds himself committed to being against censorship because he is a liberal, against religion and God because he is a moral relativist, and altogether in benign or malignant conspiracy with Communism because of his welfarism as well as his agnosticism. But if the progressive can be made to stand for all that, his defense is easily manufactured: the traditionalist must be for censorship and against freedom of speech because he is a conservative. He must be an inflexible theist and secretly defending feudal capitalism with his talk about free enterprise, if not in direct pursuit of Fascism in which the elite decide what is best for the masses the way that teachers decide what is best for children.

In addition to polar dichotomies literary talk about education has employed four major academic analogies to the same end of artificially dissecting practice while, in fact, not discussing practice at all.

Polar Dichotomies: At the broadest level of abstraction and also the most intense focus of argumentation, polar concepts divide almost all of education (and most talk even remotely related to practice) into two antagonistic, and often mutually exclusive, camps. This is as if it were based on the mistaken metaphor that likens the body of practices to the human body and takes it for granted that both are bilaterally symmetrical. If practice were somehow bilaterally symmetrical, this division into progressive and traditionalist, liberal and conservative, relativist and absolutist, agnostic and theist might be at least as useful as the directions right and left, stop and go. The truth is that such directives refer to two categories of human action. The terms atheist, theist, relative, absolute, liberal, conservative, traditional, and liberal are neat categories for the pigeonholing of thoughts, statements, or beliefs. They have little to do directly with actions. But practice is an action. The polar dichotomies have not grown from an analysis of practice; rather they reflect the convenience of lumping statements into two piles.

In general, the difficulty with current literary talk about education is that the categories have been tailored only to the requirements of talk itself. The categories have been set up mainly for the convenience of classifying philosophic, psychological, sociological, and political talk. Small wonder that they fit practice only by accident since they were not made to fit practice. A practical discipline must have categories tailored to fit practice and let the intellectual constructs do the adjusting.

Academic Analogies: Just as the quadrants north, east, south, and west can be imposed on any map so has talk about education set up four quadrants by which to superimpose talk upon practice: Idealism, Realism, Scholasticism, and Pragmatism. Of course there are intermediate points on this intellectual compass: naturalistic idealism and critical realism, for example.

The basic categories of educational philosophy represent a classification of philosophic thought into four major divisions. The categories have nothing to do with practice but everything to do with philosophy. The connection with practice is not made through the categories but through the analogies which each major division employs. The Realists liken all of reality to matter, the Idealists to ideas, the Scholastics to mind over matter, and the Pragmatists to human interaction in a social setting. The preoccupation with these analogies produces the pedantic content which passes for the material of a discipline of education.

The difference between the academic analogies of the major divisions of educational philosophy and the common sense analogies employed by such historical traditions as Monitorial Method and Object Teaching is twofold: level of abstraction and complexity. The philosophic metaphors pretend to illumine "existence," whereas the metaphors used in the historical traditions deal principally with human nature. To be academically respectable, the philosophic analogies could not stand on such an obvious and apparent justification as the poetic similarity between a child and a flower. The academic metaphors explored the analogy in all its ramifications and submitted this as proof of academic accomplishment. In sum, then, the common sense analogies of the historical traditions are less pretentious and come out comparatively well under the principle of parsimony.

Both, however, rely on analogy, whether common sense or academic. The difference is that the philosophic divisions of talk about education into Idealist, Realist, Scholastic, and Pragmatist represent a classification most appropriate to intellectual matters. As such, it is an artificial system inappropriate for the classification of practice and not directly useful in developing a literary discipline of education. A system which is natural for the classification of ideas may not be natural for the classification of actions: in this case instructional practice.

Common Sense Analogies: Without precise information about human behavior, speculation about human nature took the floor. The absence of information about the effects of instruction on conduct allowed all kinds of latitude for conjecturing about how instruction must be modified to be in accord with this or that view of human nature and this or that view of reality.

The attitude toward human nature that brought original sin to the foreground found congenial company in the attitude toward children that likened the pupil in the classroom to a beast in need of training. And, indeed, there is something suggestive of the truth in the idea that teachers are animal trainers of a sort. Analogies are not possible without similarities.

From Rousseau through Pestalozzi and Froebel the view of the child as an innocent savage mellowed until it joined with the analogy of the child as a flower in a kindergarten. Flowers cannot be disruptive, and they need not be trained for obedience. Instead, they must be cultivated, encouraged to grow and blossom. Seeing instruction in this half-light completely altered the view.

The nineteenth century fabricated the imagery which set talk about how to teach on the road to polarization, but that common sense imagery had a more direct connection with classroom activity than the academic analogies of Realism, Idealism, Scholasticism, and Pragmatism. The images of the child as beast, flower, social embryo, or artist were no less metaphorical than the images of reality suggested by the four divisions of educational philosophy. They were, however, more relevant to practice. The common sense analogies of the major historical traditions provided concrete models from which deductions about practice were made and, to a considerable extent, applied.

Limitations of Analogy: The common sense metaphor of the child as flower or the academic metaphor of reality as matter have the suggestive power of poetic imagery. The common sense metaphor attempts to suggest a model of human nature, and the academic metaphor reaches beyond it to suggest a model for all of reality. Both engage in the search for some rock-bottom concept that will support the view of practice they hope to set forth. But quite often poetic analogy has as many interpretations as interpreters. The more comprehensive the metaphor, the more open to a wide range of interpretations it may be. Metaphor, then, lacks the power to justify the very approach to practice it may suggest. For justification the academic metaphors and the common sense ones have often gone to fictional hypotheses which were put forth as causal explanations of how human nature *must* work.

The Limitations of Fictional Hypotheses: In attempting to support the project method, Kilpatrick set forth the fictional hypothesis that there was such a thing as the "purposeful act" and that it served equally as the typical unit in democratic instruction and the typical unit of action in a democracy. This is roughly equivalent to saying that in boxing there is a "fouling instinct" and that it is the typical unit of unfair behavior both in the ring and in society. Thus any man who fouls in the ring can be expected to steal outside. Thus proper training for boxing would emphasize the "sportsmanship" instinct and better fit the fighter for following the rules of the game of life.

In searching for an explanation for the creative ability of the artist, Winters offered the fictional hypothesis of a moral attitude; and Richards posited subconscious communication. These are the fictions about the inner workings of man and the mind comparable to the fictions primitive tribes invented to explain the workings of nature. There seems every reason to believe that primitives take the unobservable spirits responsible for rain and drought as seriously as Winters takes his moral attitude, Richards his subconscious communication, and Kilpatrick his typical unit. The difference is that it is generally conceded that no amount of investigation will uncover the spirits in which the primitives believed. The contemporary causal hypotheses have been preserved from appearing to be mere fictions by the camouflage which clothes them in the latest terms from behavioral science and invests them with credibility fashioned out of a wealth of introspective detail. Whether a dream castle is described from the outside or from the inside, it remains a fiction.

Fictional hypotheses direct attention away from the search for causes by injecting intriguing fictions in the path of the inquirer. He can be misled. They help keep the conditions under which practice takes place obscure by preventing an honest admission of ignorance. Even so, like the metaphors they are supposed to justify, even fictional hypotheses have suggestive powers. It is for their suggestive properties not their powers of explanation that metaphor and fictional hypotheses belong in a literary discipline.

When academic analogies and common sense metaphor find their justification in fictional hypotheses and all together merely suggest general methods that look back to the fictional hypotheses and to metaphors for justification, talk about education remains incurably circular. If it breaks out of this circle to focus the suggestive power of metaphor and fictional hypothesis on an account of practice, it has a chance of fulfilling the twofold function of a literary discipline: improving the understanding of practice and suggesting the direction the search for literal meaning may profitably pursue. The major historical traditions have come closest of all talk about education to breaking out of this pattern of circular meaning. The conceptual network has been used to expose both the circularity and the negative tendency toward polarization. Now it must be used to focus the suggestive properties of the major traditions on an understanding of practice. In this task the conceptual network is used in conjunction with the dimensions of instructional space developed earlier to develop a *natural system* of literary talk.

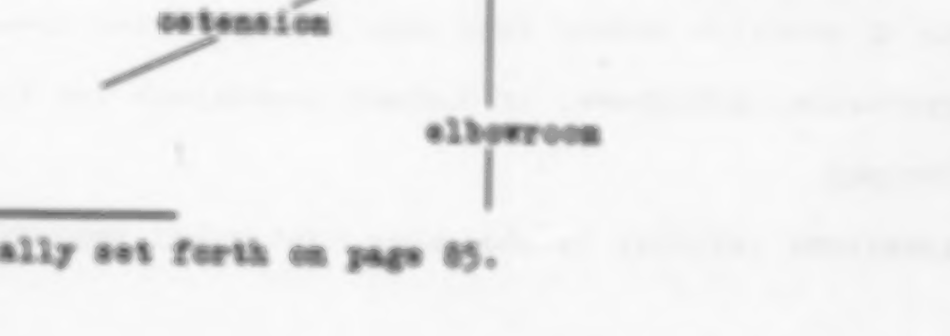
Natural vs Artificial Systems: What is natural and what is artificial remains, at the bottom, a somewhat arbitrary matter. What is important is that the distinction is not arbitrary on the surface as well.

The bilateral dichotomies that polarize talk about education and the four basic educational philosophies that impose four quadrants on discussion fit well with intellectual distinctions drawn in philosophy, in politics, and in theology. They were tailored as intellectual classes not as categories for the classification of behavior. With regard to the classification of practice they remain *artificial*.

In developing a framework to guide the construction of a discipline, the question of whether the materials will be cut to fit specifications or whether the specifications will be tailored around available materials must be answered. Most talk about education has not been cut to fit the requirements of practice, but rather the idea of how practice can be discussed has been tailored to the available concepts abroad in philosophy, behavioral science, and politics. A natural system must set out the dimensions of practice and take only those materials that can be cut to fit such a discussion. It was this idea that led to the formulation of the different stages of literal talk.*

Literal Talk:

1. Elements of actual practice -- behavioral descriptions of deportment, the organization of content, and the activities appropriate to learning.
2. Dimensions of practice -- concepts giving depth to the elements (elbowroom, constraint, sequence, spontaneity, ostension, didacticism).
3. Generalizations from practice -- object teaching in such specific form as Froebel's gifts, etc.
4. The concept of instructional space --



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*Initially set forth on page 85.

It is in the major historical traditions that the concepts most directly related to these facets of practice can be found. If the metaphors and the causal hypotheses are approached merely "as reasons to suppose" rather than as causal explanations, the tendencies of each tradition can be made apparent. Thus the tendency to polarize can be minimized.

Toward a Literary Yet Natural System: The fully natural system for classifying talk in a discipline of education would be thoroughly literal, but the knowledge necessary for such a system is not available. If a discipline of education is to be built out of presently available knowledge, it must be in good measure literary. But it need not be the kind of a discipline which stretches the picture of practice to fit the classes established from formal philosophy. The conceptual network exposes enough of each of the six major historical traditions to suggest that the conceptions of practice hold considerable meaning usable in filling out the details of the concept of instructional space -- itself "natural" to practice.

The details of such a concept of instructional space would still be literary because they would be taken from the suggestive facets of the historical traditions. Yet they would be natural rather than artificial since they would be directed toward the understanding of practice rather than away from practice toward fictional hypotheses, metaphors, or classes convenient for dissecting philosophy.

The suggestions implicit in the major historical traditions appear in this partial summary which the conceptual network affords:

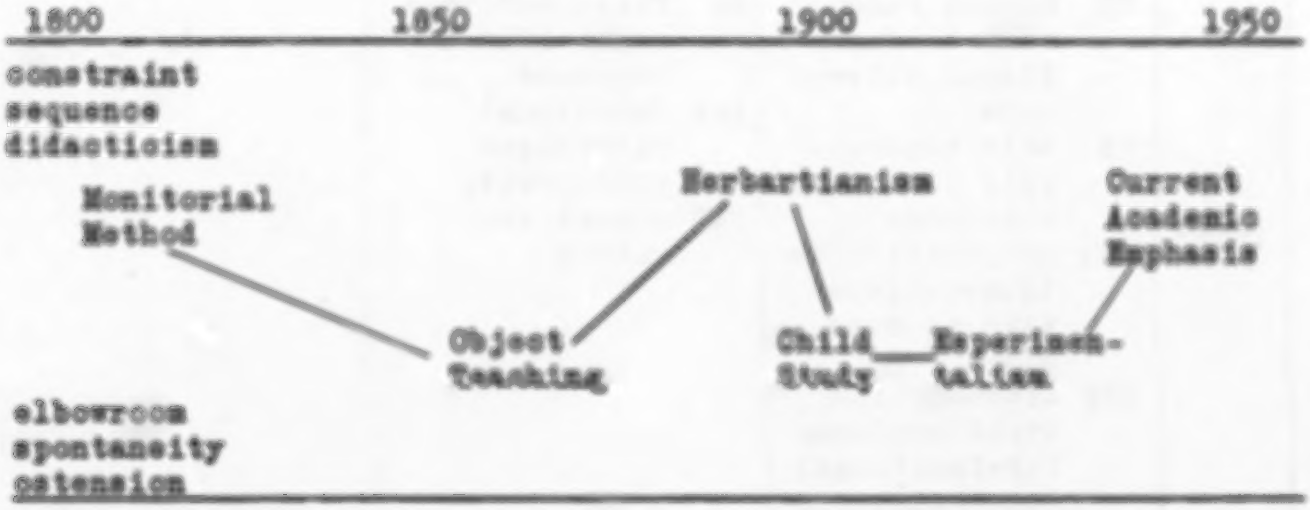
CONCEPTS USEFUL IN DEVELOPING A NATURAL SYSTEM

Key: Monitorial Method - MM
Object Teaching - OT
Herbartianism - Hx
Child Study - CS
Experimentalism - Exp
Current Academic Emphasis - CAE

	Individual	Instructional	Institutional
intra	MM disruptive= need for regulation and constraint CS expressive organism=unfettered elbowroom	Hx 5 steps=well established sequence CS expression=quite unfettered elbowroom CAE TV=expert sequence	MM military=rigid control over department OT home=elbowroom to move about in Hx paternalism=rigid constraint
inter	OT normal range of beh.-functional elbowroom CS self control=self contained elbowroom Exp cooperative action=cooperative spontaneity CAE autonomy to avoid conformity=functional constraint	Hx fixed curric.=crystallized sequence Exp functional knowledge=spontaneity CAE expert sequence	
super	MM beast=punitive constraint OT plant=unfettered elbowroom	MM abstractions=didacticism OT real life=ostension Exp moral choice=ostension CAE scholars=didacticism	

This initial exploration of the historical traditions in terms appropriate to the discussion of instructional space shows the divergent tendencies that originally directed talk about education toward opposite poles. Monitorial method did emphasise constraint, sequence, and didacticism; while object teaching tended toward elbowroom, spontaneity, and ostension. But to speak of the *tendencies in practice* is a much more descriptive thing than to speak of conceptions of practice as polar opposites.

The Dialectic in Conceptions of Practice: If the opposed tendencies implicit in conceptions of practice are charted chronologically, they form a kind of dialectic -- thesis, antithesis, and synthesis. The chart would appear this way.


1800
1850
1900
1950
constraint
sequence
didacticism
Monitorial Method
Herbartianism
Current Academic Emphasis
Object Teaching
Child Study
Experimentalism
elbowroom
spontaneity
ostension

The whole idea of a dialectic suggests that the new thesis that follows a synthesis is somewhat different from the original thesis. Each program modified the subsequent ones, and each of the traditions made its own contribution to the concept of deportment, organization, and activity. These were continua with different degrees of constraint, elbowroom, etc. as the previous use of the conceptual network suggests.

When developed in accord with artificial systems for classifying concepts best suited to the intellectual abstractions drawn in summary form from philosophy or psychology, literary talk about education exploited these tendencies in terms of polarities. The constraint, sequence, and didacticism implicit in the Herbartian five-step method was defended in terms of the culture epoch theory; and subsequently the dispute revolved around whether or not the culture epoch theory was incipient Fascism built around a social elite and a master race. The consequences of constraint, sequence, and didacticism remained unexamined.

To reverse this tendency toward polarization, the natural system searches for those concepts which both actual practice and the major conceptions of practice seem to have in common. To uncover those similarities, the conceptual network has been exploited; now it remains to exploit the concept of instructional space in the same direction. The connection thus established between conceptions of practice and the elements of practice will be rational, but it will be relevant to practice in a way that previous frameworks are not. It is this increased relevance to practice that justifies its being called natural.

Exploring the Continuum of Instructional Space: By way of review and orientation to a simplified view of the ingredients in the concept of instructional space the following diagram is presented:

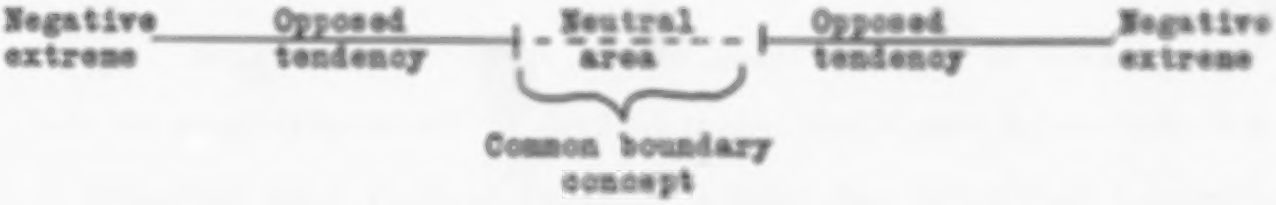
CONTINUUM OF DIVERGENT TENDENCIES IN INSTRUCTIONAL SPACE		
Aspects of Instruction	Three Part Continuum	Terminology
Deportment	← Constraint ¦ Neutral Area ¦ Elbowroom →	Deportment Continuum or Constraint-Elbowroom Continuum
Organization	← Sequential ¦ Neutral Area ¦ Spontaneous →	Organization Continuum or Sequential-Spontaneous Continuum
Activity	← Didactic ¦ Neutral Area ¦ Ostensive →	Activity Continuum or Didactic-Ostensive Continuum

Each of the opposed tendencies toward the three major aspects of instruction have their origin in a common neutral area which cannot properly be labeled one or the other. What looks like constraint to one observer may be described as elbowroom by another. Only when the instructional situation becomes somewhat extreme can the attitudinal tendency be observed. Thus much of the argumentation carried on in polar terms has led to contradictory claims and counter claims for that broad range of practices which properly fall into the neutral area. In just such a manner, the quite trivial question of how classroom furniture shall be arranged became an index of whether instruction was to be constrained or abundant in elbowroom. Some talk about instruction seemed to suggest that if chairs were screwed to the floor, students could not learn.

The failure to understand that some of what went on in the classroom had little to do with either basic attitudes or with significant aspects of instruction led to the spectacle of having teacher distribution of pencils, as against student distribution, dichotomized as authoritarian versus democratic practice. Further, the absence of behavioral descriptions of these attitudes as observable in teacher and student conduct assured that ambiguity would be maximized. And finally, the lack of information concerning what kind of teaching techniques produced what kind of results on what students when used by which teachers opened the field completely to speculation. Polar attitudes, like signs of God, could be uncovered everywhere once philosophers pointed out what to look for and practitioners looked hard enough. The classification into extreme categories obscured the fact that even opposed tendencies show up in the classroom in shades and degrees rather than as polar opposites.

Other Characteristics of the Continuua: Two characteristics of the instructional situation make each of the three attitudinal continuua similar and somewhat unique. First, each of the three continuua has its neutral area on each side of an arbitrary midpoint within which opposite tendencies find a common matrix. This permits the possibility of a given practical activity being claimed by either one of the opposed tendencies, or by both, or of being scorned by both. Second, each instructional attitude turns sour when extended to an extreme. Extremes change the nature of the attitude from positive to negative and assures that discussion which is polarized will eventually descend to invective.

A general model of attitudinal continuua should serve as a reminder of these dangers.



The "common boundary concept" designated above suggests that each opposed tendency begins within the bounds of ordinary classroom practice and may be appropriately claimed as a beginning point for each opposed tendency. For example, in the descriptions to follow of stages along each continuum, elbowroom and constraint both begin with the common boundary concept "functional." The same procedure applies to using the term "contextual" for the organization continuum and "deliberative" for activity. These common concepts at once initiate each side of the continuum and act as boundaries for ordinary instruction.

Common Border Concepts: The shape of a coin looks the same whether viewed from heads or tails -- round. In the same way, genuinely neutral practices should present the same shape whether viewed from one attitudinal tendency or its opposite. To facilitate this in the discussion of the deportment, organization, and activity continuua, opposing attitudes have been designated by the same opening stage name. Specifically, the first stage of elbowroom and of constraint as each emerges from the area of neutral practice has been called functional. The organization continuum contains both contextual sequence and contextual spontaneity. Finally, didactic and ostensive learning both begin with "deliberative." Thus, the terms functional, contextual, and deliberative serve both as first stages of the respective continuua and as common border concepts bounding the area of neutral practice.

Brief Summary of Stages: The neutral areas, border concepts, negative extremes, plus the specific stages not yet explained can be assembled to provide an introductory overview of the three continuua which circumscribe much of instruction. Here, then, is the skeleton of a natural system for classifying historical traditions according to their significance for practice:

SYSTEM OF NATURAL CLASSES FOR A LITERARY DISCIPLINE

Stages	General Areas	Deportment Continuum	Organization Continuum	Activity Continuum
four	Negative Extreme	Anarchistic Elbowroom	Chaotic Spontaneity	Trivial Ostension
three		Unfettered Elbowroom	Immediate Spontaneity	Terminal Ostension
two		Self-contained Elbowroom	Cooperative Spontaneity	Allied Ostension
one	Common Border-Concept	Functional Elbowroom	Contextual Spontaneity	Deliberative Ostension
	Neutral Area			
one	Common Border-Concept	Functional Constraint	Contextual Sequence	Deliberative Didacticism
two		Regulative Constraint	Established Sequence	Impersonal Didacticism
three		Rigid Constraint	Expert Sequence	Broadcast Didacticism
four	Negative Extreme	Punitive Constraint	Crystallized Sequence	Dogmatic Didacticism

Before applying the new concept of instructional space to the historical traditions it is necessary to explain the details of this natural system.

The Details of Instructional Space in Terms of Natural Classes:

Limitations of Concepts: Accounts of the behavior which earned medals for soldiers in World War Two would no doubt encompass an astonishing range of activities. Fact would have to be sifted from fiction, impressions glorified after the fact from eye witness accounts, hero worship from envy, and much more. Yet, in the broad, a general concept of "exceptional" or "heroic" behavior might be extracted from such a body of material. And, informally, such a conception has been distilled in the history and the fiction of each war. In much the same manner there is a general conception of "delinquent" and "well adjusted" child behavior. Governments are branded "tyrannical" or "benevolent," parties "liberal" or "conservative" in roughly the same way. Central tendencies, fuzzy to be sure, are thus discerned.

In the same general manner central tendencies toward deportment, organization, and kind of learning can be identified. In fair measure broad concepts already useful in daily communication serve to identify such concepts without giving a false sense of exactness or precision where none exists. Underlying such common sense conceptions as heroism, delinquency, or in this instance constraint, elbowroom, sequential, spontaneous, and didacticism or ostension, rests the bed-rock assumption that each can at some future time be precisely defined in terms of observable behavior.

Stages of the Deportment Continuum: Constraint and elbowroom have sufficient ordinary meaning that, in addition to being pedantic, an extended definition would more likely confuse than clarify. Examples of the different stages of constraint and elbowroom often found in classrooms should make the concept clearer in its instructional setting without laboring the obvious.

Constraint

1. Functional:

1.1 Not having two students speak at once.
1.2 Inquiry into the cause of absence or tardiness.
1.3 Discouraging the reading of comic books, chewing of gum, or eating candy in class.
1.4 Having youngsters occupy the same seats every day until a change in activities necessitates a shift.
1.5 Insistence that clothes be clean and dress be appropriate to the occasion.

2. Regulative:

2.1 Insistence that a hand be raised and recognized before speaking.
2.2 A rule that absences must be excused by the parent in writing.
2.3 Forbidding the reading of comic books, chewing of gum, or eating of candy in class.
2.4 Using an alphabetical or boy-girl seating arrangement as a general rule.
2.5 No shorts or blue jeans allowed in normal class sessions.

3. Rigid:

3.1 Extension of the hand-raising rule to all activities such as fixing a window or going to the boy's room.
3.2 Specifying the excuses which will be acceptable and those conditions which will not qualify as excused absences.
3.3 Forbidding that comic books, gum, or candy be brought to class.
3.4 Insisting on the same seating arrangement for all class work and activities and extending it to control seating outside of class in assembly, for instance.
3.5 Specification that white shirts, sport coats, and neckties will be worn by boys.

4. Punitive:

4.1 Extra assignments for unauthorized talk even when motivated purely by enthusiasm to respond.
4.2 Excluding from class anyone who fails to bring an excuse for absence.
4.3 Searching students for contraband.
4.4 Designating a "dunce seat" or seating youngsters according to performance (highest grade gets the front seat in the first row, etc.).
4.5 Forcing a boy who forgot his tie to wear a crepe-paper one.
4.6 Forbidding certain kinds of haircuts under threat of expulsion.

Elbowroom

1. Functional (same as constraint)

2. Self-contained:

   2.1 Allowing students to raise questions without putting up their hands or receiving formal recognition.
   2.2 Accepting students' explanations of absences.
   2.3 Having students specify whether, to what extent, and when comic books, gum, and candy will be allowed.
   2.4 Letting students sit-at-will on the first day of class.
   2.5 Saying nothing about dress until a problem arises.

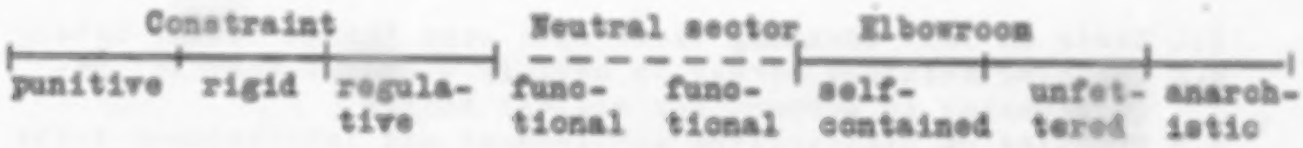
3. Unfettered:

   3.1 Allowing students to interrupt one another and argue in class as they might outside (when they keep to the subject and avoid violence).
   3.2 Accepting any explanation of absence so long as one is offered.
   3.3 Letting each individual regulate his use of comic books, gum, and candy voluntarily.
   3.4 Permitting students to adjust their seating arrangements as the activity indicates.
   3.5 Allowing students to wear blue jeans if they care to.

4. Anarchistic:

   4.1 No control over talk.
   4.2 Absences need not be excused.
   4.3 Allowing students to import anything into classroom.
   4.4 Letting students wander the classroom at will.
   4.5 Any dress within moral-legal bounds.

No one phase of any stage categorically affirms a central tendency. Taken together, however, examples of the kind given above point definitely toward certain attitudes and serve as signs that legitimate distinctions of degree can be made, giving meaning to the following coarse division of the deportment continuum:



Stages of the Organization Continuum: Instruction, like murder, can be premeditated or governed mainly by impulse. Premeditation, careful planning, unfolds as a sequence of organized steps. Though action taken on impulse may have a design about it, a certain organization, such spontaneous organization emerges from contextual conditions more than from any abstract plan. Again, examples should clarify the attitudes and their stages.

Sequence

1. Contextual:
   - 1.1 Building history lessons around local battlegrounds and monuments.
   - 1.2 Arranging English and spelling lessons on the basis of errors in composition.
   - 1.3 Working up projects for science foundation scholarships by using war surplus electronic equipment.
   - 1.4 Incorporating museum exhibits in the study of American Indians.
2. Established:
   - 2.1 Units on subjects worked up in lesson plans which go unchanged from year to year.
   - 2.2 Standard lectures based on past precedent in the subject.
   - 2.3 Standardized divisions of a subject as in physics -- mechanics, thermodynamics, electricity.
   - 2.4 Unalterable college preparatory curriculum in mathematics, algebra I, plane geometry, algebra II, trigonometry, and solid geometry.
3. Expert:
   - 3.1 Revised programs of modern mathematics or physics worked up by Nobel prize winners.
   - 3.2 Textbooks or teaching machines programmed by subject matter experts.
   - 3.3 TV lectures given nation-wide by outstanding scholars.
4. Crystallized:
   - 4.1 Texts in fast changing field used even though out of date.
   - 4.2 Teaching designed merely to satisfy board of regents' requirements; to prepare for college boards.
   - 4.3 Practice on standardized achievement and intelligence tests in order to insure higher scores.
   - 4.4 Unchanged tests given year to year to students who have samples to study.
   - 4.5 Unchanged projects students anticipate.

Spontaneity

1. Contextual (same as under sequence)

2. Cooperative: (instead of the usual sequence of a subject as understood by the teacher, some approach is planned in the class in conference with the students)

    2.1 The writing and production of a play as an approach to both composition and appreciation.
    2.2 Identification of significant problems by students and teacher and arrangement of activities to solve them.
        2.21 Building science experimentation apparatus in shop rather than the usual pump-lamp project.
        2.22 Surveying community opinion about school consolidation as part of social studies.

3. Immediate: (spur-of-the-moment organizations)

    3.1 Relying mainly on student questions.
    3.2 Having youngsters bring in whatever they want and then talking about these things.
    3.3 Relying on current news happenings for substance of class.
    3.4 Depending on student interest as basis for deciding what to teach without evaluating its worth.

4. Chaotic: (break-downs due to absence of organization)

    4.1 Repetition, continuity gaps, and omissions resulting from reliance on student interests.
    4.2 Digression in tangents brought in as distractions by students.
    4.3 Much time spent on trivial matters merely because students are interested, such as hot-rods, rock and roll, etc.

Sequence provides efficiency, and to some extent assures significance. Experts will spend time organizing trivia only by mistake. Like earning money, sequence can become an end in itself apart from its utility. Under such circumstances pedantry is difficult to distinguish from scholarship. From the other side, however, spontaneity captures the verve and zest of a situation the way a good performer capitalizes on the mood of his audience. Teaching worthy of being called a refined art can breathe the life of student enthusiasm into otherwise inert information. Somewhere on the following continuum a point of aim must be selected:

Sequence			Neutral Sector			Spontaneity	
crystallized	expert	established	contextual	contextual	cooperative	immediate	chaotic

Stages of the Activity Continuum: Didacticism emphasizes "telling" over "showing" and violates the Pestalozzian dictum "never tell a child what he can discover for himself." Ostension is "showing" in such a way that the child "sees" directly through some one or a variety of senses. Didactic activity would emphasize the verbal definition of a circle as the locus of all points in a plan equidistant from a single point in that plane. In contrast, ostensive instruction would emphasize what could be learned from looking at and drawing circles along with handling circular things such as saucers. Good instruction in geometry would include both, but one could be emphasized over the other. Balance is a matter of taste. Yet a student may pitch a baseball quite well for ten years and not learn the first thing about trajectory or the aerodynamics of a curve-ball. In an English class the same student could learn to define beauty as "the harmony of opposites in dynamic balance" and never see a painting or listen to a symphony. As instructional activities didacticism and ostension have the following stages:

Didacticism

1. Deliberative -- the intellectual discussions between teacher and student or among students (directly related to the subject at hand).
    1.1 Lectures and assigned readings integrated with questions and a recitation session.
    1.2 Seminars devoted to more intense discussion than recitation allows (often associated with library research).
2. Impersonal -- fixed concepts formally presented.

- 2.1 Formal lectures with only five minutes for questioning.
- 2.2 Lectures unchanged from year to year.
- 2.3 Readings assigned but not discussed.
- 2.4 Drill and memorization

3. Broadcast -- one-way presentations.

   - 3.1 Full lectures with no questions whatever.
   - 3.2 Centrally programmed teaching machines with unchangeable programs.
   - 3.3 Courses given over television, film, tape, record, radio, or through correspondence.

4. Dogmatic -- intentionally biased presentations.

   - 4.1 Propagandistic lectures, broadcasts, films, etc. such as medical or military minded groups present on the evils of Communism or socialized medicine, etc.
   - 4.2 Lectures stipulating or promulgating a "correct" set of attitudes or tastes in such equivocal matters as art, morality, religion, and politics.

Ostension

1. Deliberative -- the same kind of intellectual discussion as above except that it is stimulated by a project or some other activity.

   - 1.1 Discussion of civil rights stimulated by a re-enactment of "sit-ins": role playing.
   - 1.2 Written papers stimulated by field trip activities.

2. Allied -- contacts initiated because they seem related to the learning outcomes sought but from which no deliberation is expected.

   - 2.1 Modeling clothes of the Civil War period.
   - 2.2 Building a model airplane as part of a unit on transportation.
   - 2.3 Making soap as the Colonists made it.

3. Terminal -- activities and contacts with things for appreciation alone and without any effort being made to relate it to other areas of learning.

   - 3.1 Mechanically sewing a dress together just to make a dress because it is required.
   - 3.2 Building a lamp by following directions but learning next to nothing about electricity or wood working.
   - 3.3 Walking through the steps of a dance.
   - 3.4 Learning the mechanics of starting, steering, and stopping a car without reference to the motor, laws, or physics.

4. Trivial -- terminal activities lacking significance.
    4.1 Fixing a hot-rod in shop.
    4.2 Building models because it keeps the student quiet.

Which kind of didacticism or ostension achieves what kinds of results with which students may be determined empirically. In the meantime, however, those who train teachers must take a position on the following continuum with only the precedent of historical traditions to guide them:

Didacticism			Neutral Sector		Ostension		
dogmatic	broadcast	impersonal	deliberative	deliberative	allied	terminal	trivial

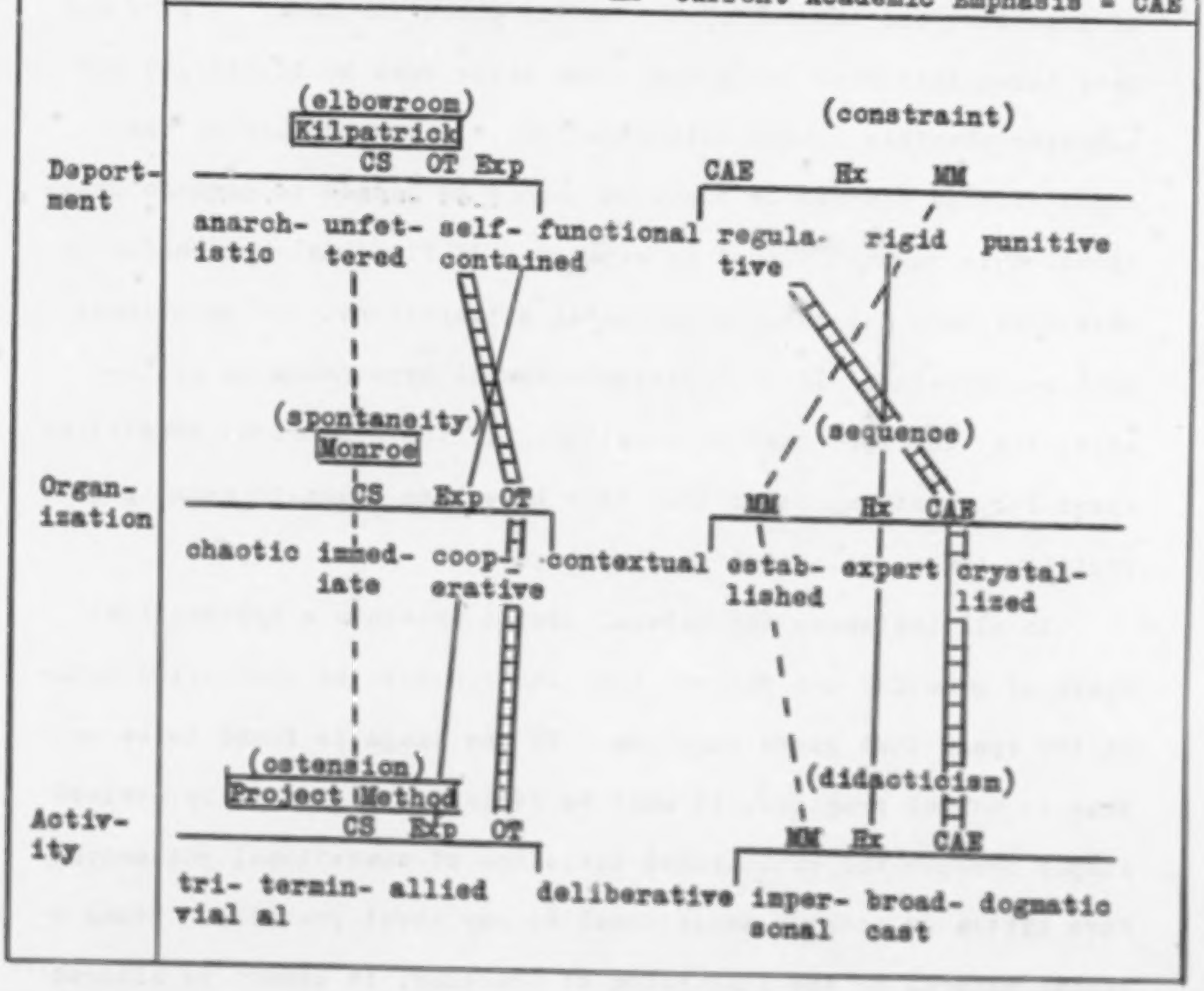
Classification in Instructional Space: The stages of each tendency toward constraint or elbowroom, sequence or spontaneity, and didacticism or ostension would have to be defined fully in terms of directly observable behavior before the literal description of actual practice could proceed on the same level with the mapping of a continent. Even as they stand, these categories provide a rough framework for measuring conceptions of practice against a crude picture of practice. In that sense, it offers a natural system for classifying the major historical traditions. When classified, their relevance to teacher training and to a literal understanding of practice can be assessed thus fulfilling the twin functions of a practical literary discipline.

Historical Traditions in the Natural System: The analysis of the historical traditions initiated by each of the applications of the conceptual network was brought to summary form first in connection with polarization then in the developmental chart on page 164. The following diagram is inferred from the previous summaries:

THE PROFILE

Classification of the Six Major Historical Traditions
According to the Natural System of Instructional Space
(with Kilpatrick, the project method, and Monroe added)

Key: Monitorial Method = MM
Object Teaching = OT
Herbartianism = Hx
Child Study = CS
Experimentalism = Exp
Current Academic Emphasis = CAE


(elbowroom)
Kilpatrick
(constraint)
Deportment
CS OT Exp
CAE Hx MM
anarchistic
unfettered
self-contained
functional
regulative
rigid
punitive
(spontaneity)
Monroe
(sequence)
Organization
CS Exp OT
MM Hx CAE
chaotic
immediate
cooperative
contextual
established
expert
crystalized
(ostension)
Project Method
(didacticism)
Activity
CS Exp OT
MM Hx CAE
trivial
terminal
allied
deliberative
impersonal
broadcast
dogmatic

This profile suggests the relative positions of the six major traditions, of two men, and of one general method but provides no new information. It says nothing profound. It may be factually in error. But it commits the traditions, the men, and the general method to a concrete position with regard to practice; and this can be disputed openly. It is with just such concrete commitments of men and ideas as standing for particular stages of practical activities that the literal discipline does its work. If the ideas or the men cannot be identified with particular, observable facets of practice, the natural system has no place for them. If the men have taken different positions, then these must be identified and wherever possible linked with practice. If the classes of concepts such as Realism or Idealism cannot be pinned to certain practices, this vagueness must be exposed. If fictional hypotheses or metaphors have substituted as causal explanations, the masquerade must be revealed. If no legitimate causal hypothesis is available, the ignorance must be admitted. If the historical traditions stand for something other than they have been taken to mean in this profile, the profile must be rearranged.

In all instances the natural system presents a hypothetical image of practice and insists that the concepts be classified within the space that image supplies. If the image is found to be untrue to actual practice, it must be revised. It cannot be revised simply because the established divisions of educational philosophy have little or nothing unequivocal to say about practice. Being a system natural to the discussion of practice, it cannot be altered to fit the concepts abroad in talk about education. To develop a discipline by the natural system, ways of talking sensibly about practice must be fashioned out of available intellectual content.

The literary discipline searches the established literature to see what has already been said that can be fit into the natural system. If certain poetic analogies (common-sensish or academic), certain causal hypotheses, and the general methods proposed by revered figures have to be eliminated from the subject matter of education as a literary discipline and declared bad poetry, mystical psychology, or fiction of one sort or another, there need be no alarm. It has always been thus.

Performing Two Functions: The literary discipline must perform two functions to meet the criteria of utility: provide understandings of practice helpful in teacher training and act as a prelude to the emergence of a literal discipline. The profile, which the classification of historical traditions within the natural system provides, holds promise for both functions.

The Profile in Teacher Training: The conceptual network that preceded the development of the profile exposed the metaphors and fictional hypotheses for quick identification. If this service can be performed, the teacher trainee need not wade through the labyrinths of futile explanations which cannot explain. The skeleton of the natural system suggests a hypothetical conception of instructional space applicable both to the analysis of historical traditions and the framing of an understanding of conditions to be encountered out in the field. The profile suggests how practice has been viewed in the past. The student can even build a profile of his own with regard to any phase of classroom activity and set about searching around for reasons to suppose that his profile is better than Dewey's.

Simply, the profile short-circuits metaphors and fictional hypotheses as well as academic analogies and directs attention to what the teacher trainee must have above all others: a picture of practice. By showing him many pictures of practice, the trainer of teachers broadens the student's scope of alternatives. To paraphrase and mutilate a saying, "one reasonable facsimile of practice is worth a thousand metaphors and all the fictional hypotheses the mind can conceive."

The Profile in Research: The profile identifies numerous items worthy of historical and philosophic analysis. The accusation that Kilpatrick's concept of "the purposeful act as a typical unit of school procedure" is a fictional hypothesis can be openly disputed, and possibly refuted. The classification of the historical traditions in terms of the conceptual network can be extensively examined for accuracy of detail. And the whole idea of the soundness of the frameworks leading up to the profile can be examined with microscopic detail.

Assuming the general correctness of the profile, what does it offer to the development of a literal discipline? Here it has its greatest value. As a hypothetical image of practice applicable first to the examination of conceptions of practice, and second, to the examination of actual practice, it fills a vital gap. Investigation of practice has had to await the development of instruments in behavioral science before it could make progress.

Consequently, research into practice has been either psychological or sociological in nature. Dependence on what the behavioral scientists have seen fit to investigate has kept the understanding of practice fragmentary. The profile enables educators to employ the insights accumulated throughout the development of major historical traditions in the invention of a conception of practice that can eventually be translated into terms of human behavior observable in the classroom. The profile is a tentative exploration of the architecture -- instructional space admittedly literary at the outset. With care the educational researcher can take this literary model and develop it into a working facsimile of practice usable in the design of empirical research.

Art Criticism and a Literary Discipline of Education: The profile joined with the conceptual network makes it easier to examine "reasons to suppose" that certain practices are better than other practices. The profile states where an idea or a man stands in instructional space. It gives his latitude and longitude with reference to practice not with reference to philosophic abstractions. It nurtures the development of a literal discipline by bringing talk about education one step closer to the judgment of actual practices. It seems that individual practices must be judged good or bad just as individual paintings are judged good and bad before the body of practices which represents a working model of instructional space can be set out for careful inspection.

Literary critics alert the viewer to something to be seen in the painting just as the profiles set in the skeleton of the natural system alert the researcher and the teacher to something that may be found in the classroom. This imagined map of practice anticipates the actual mapping of practice. The skeleton of instructional space filled in with the six profiles of major historical traditions suggests possible maps. By emphasizing the profiles and minimizing the metaphors and fictional hypotheses, the architecture of instructional space stands forth in bold outline. It is the main function of a literary discipline to suggest the architectural potential, both in terms of the structures already erected and the possibilities yet unexplored. From such a discipline the teacher and the researcher can benefit. A natural literary discipline that examines historical traditions and general methods first according to the nine categories of the conceptual network and then in terms of the profiles etched within the skeleton of instructional space seems to be the best approach to exploring the dimensions of instructional space short of getting inside the classroom. Much about a house can be learned from the outside.

A natural literary discipline provides clues about the nature of practice, and these clues lead to shrewd guesses about how to teach. Teacher training should make prospective teachers as shrewd at the judgment of practices as art dealers are in the assessment of paintings. Researchers must find out which guesses are warranted and which are not. And until they can come up with a literal diagram of practice, that assessment will have to be made against some hypothetical conception of what practice is like.

A natural literary discipline provides such a conception and classifies thoughts according to it.

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